MARKET COMMENTARY

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PROCEEDINGS OF THE CANADIAN AGRICULTURAL OUTLOOK CONFERENCE

December 1984

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FOREWORD

The 1984 Canadian Agricultural Outlook Conference was its 50th Anniversary. The theme of the Conference, held in Ottawa on December 10-11, was "Developing Our Resources on a Global Basis". The theme recognizes the growing importance of international markets on all aspects of Canadian agriculture.

Presentations of a special plenary session on the Conference theme are included in these proceedings. These presentations provide valuable information to aid in a better understanding of agricultural markets and policy considerations in key developed, less developed and centrally planned economies. The proceedings also include plenary session outlook papers and special invited presentations in the simultaneous commodity and farm input and income sessions.

More detailed information relating to specific commodities are found in the December 1984 Market Commentary (containing the outlook for Grains and Oilseeds, Animal and Animal Products, Milk and Dairy Products and Horticulture and Special Crops), Market Commentary: Farm Inputs and Finance and the Food Market Commentary.

H. Bruce Huff
Director
Commodity Markets Analysis Division

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50TH ANNIVERSARY
1984 CANADIAN AGRICULTURAL OUTLOOK CONFERENCE

DECEMBER 10 AND 11, 1984
GOVERNMENT CONFERENCE CENTER, OTTAWA

PROGRAM

MONDAY, DECEMBER 10, 1984

08:00 **Registration**

Conference Chairman: J.P. Connell
Deputy Minister
Agriculture Canada

Conference Theme: **"Developing our Resources in a Global Perspective"**

PLENARY SESSION I

Session Chairman: J.P. Connell
Deputy Minister
Agriculture Canada

08:30 **Opening Speech**

The Honourable John Wise
Minister of Agriculture
Agriculture Canada

09:00 **Long Term Prospects for Natural Resources in a Changing World**

C.S. Holling
Director
International Institute for Applied Systems Analysis, Austria

INTERNATIONAL AGRICULTURAL DEVELOPMENTS: IMPLICATIONS FOR CANADA

09:30 **U.S. Agricultural Policy Developments**

K. Farrell
Resources for the Future
Washington

10:00 Break

10:30 **E.E.C. Agricultural Policy Developments**

M. Petit
ENSSAA, Dijon
France

11:00 **Japanese Agricultural Policy Developments**

K. Hay
Carleton University

11:30 **Questions to Morning Speakers**

Lunch Time: Awards Dinner (advance sales: $20)

PLENARY SESSION II

Session Chairman: G.I. Trant
Senior Assistant Deputy Minister
Agriculture Canada

14:15 **Agricultural Prospects in Developing Countries**

T. Kerr
Food and Agriculture Organization of the United Nations
Rome, Italy

14:40 **Agricultural Prospects in Centrally Planned Economies**

P. Raup
University of Minnesota
St. Paul, Minnesota

15:05 **International Financial Developments**

E.L. Mercaldo
Senior Vice-President
Bank of Montreal
Toronto

15:30 Break

16:00 **Panel: Implications for Canada**

Moderator: G.I. Trant
Session Chairman

Panel Members:

Government: Margaret Catley-Carlson, President, CIDA
Business: C.L. Sibbald
Sibbald Group, Calgary
University: T. Warley
Guelph University
Producer organizations: – L. Hehn, President, UGG, Winnipeg
– P. Parizeau, Consultant, Granby

17:00 Question period

Evening

18:00-20:00 Foreign Agricultural Attachés Reception

TUESDAY, DECEMBER 11, 1984

PLENARY SESSION III

Session Chairman: Y. Jacques
Assistant Deputy Minister Agriculture Canada

09:00 **Canadian General Economic Outlook**

T. Maxwell
Vice-President and Chief Economist
Conference Board of Canada

09:30 **World Agricultural Outlook**

B. Agostini
Food and Agriculture Organization of the United Nations
Rome, Italy

10:00 Break

10:30 **Canadian Agricultural Outlook (1985-1989)**

H.B. Huff
Agriculture Canada

11:00 **Farm Income Outlook (1985)**

G. Andrusiak
Statistics Canada

11:30 **Questions to morning speakers**

Lunch

PLENARY SESSION IV (Main Hall)

Session Chairman: J.P. Connell
Deputy Minister
Agriculture Canada

16:30 **Dialogue with the Minister**

The Honourable John Wise
Minister of Agriculture
Agriculture Canada

17:30 **Outlook Conference 50th Anniversary Reception**

CONCURRENT SESSIONS

December 11th (13:15-16:30)

LIVESTOCK AND POULTRY

(Main Hall)

Session Chairman: C. Switzer
Deputy Minister
Ontario Department of
Agriculture and Food

13:15 **Feed Grains Summary**

B. Paddock
Agriculture Canada

13:30 **Poultry and Eggs Outlook**

S. Miller
Agriculture Canada

13:50 **Livestock Outlook**

L. Young (beef)
J. Owen (pork)
Agriculture Canada

14:20 **Questions**

14:35 **Break**

14:50 **Changes in International Meat Markets**

A. Boswell
Agriculture Canada

15:10 **Recent and Prospective Changes in the U.S. Meat Industry**

J. Nix
Situation and Outlook Board
USDA, Washington

15:35 **Recent and Prospective Changes in Canada's Meat Slaughter/ Processing Industry**

V. Stock
President
Canada Packers Ltd.
Toronto

GRAINS AND OILSEEDS

(Sussex Room)

Session Chairman: G.A. MacEachern
Deputy Minister
B.C. Department of
Agriculture and Food

13:30 **Wheat Outlook**

P. Fawcett
Agriculture Canada

13:50 **Coarse Grains Outlook**

A. Daoust
Agriculture Canada

14:10 **Oilseeds Outlook**

H. Duncker
Agriculture Canada

14:30 **1985 Canadian Acreage Forecast**

C. Fulton
Agriculture Canada

14:40 **Break**

15:00 **Comments on Outlook**

C. Carter
University of Manitoba
Winnipeg

15:20 **Questions**

15:30 **Exchange Rates and Grain Prices**

J. Groenewegen
Agriculture Canada

15:45 **Thoughts on the 1985 U.S. Farm Bill as it Applies to Grains**

W. Rassmussen
Chief of Agricultural History Branch
ERS, USDA, Washington

16:00 **Implications of the Organization for Economic Cooperation and Development (OECD) Trade Mandate Study for Grains**

D. McClatchy
Agriculture Canada

DAIRY

(Colonel By Room)

Session Chairman: L. Palmer
Deputy Minister
P.E.I. Department of
Agriculture and Forestry

13:30 **Dairy Outlook**

Y. Jacques
Assistant Deputy Minister
Agriculture Canada

14:10 **Response**

A. MacDonald
Vice-President Research
Dairy Bureau of Canada

14:35 Questions

15:00 Break

15:30 **The U.S. Dairy Industry in a Changing World**

C. Carman
Senior Dairy Analyst
ERS, USDA, Washington

HORTICULTURE AND SPECIAL CROPS

(Rideau Room)

Session Chairman: J. Tim G. Andrew
Deputy Minister
N.B. Department of Agriculture and Rural Development

13:30 **Market Outlook for 1985**

Apples and Other Fruit
Jean-Paul Barré
Apple Processor, A. Lassonde et Fils Inc., Que.

Potatoes and Other Vegetables
Tom Kavanaugh
New Brunswick Potato Agency, New Brunswick

Floriculture, Nursery and Sod
Ron Hunter
Canadian Nursery Trades Association, B.C.

General Commodity Overview
Robert W. Anderson
Agriculture Canada

15:15 Discussion

15:45 **Canada's Tobacco Industry**

E. Menzies
Guelph University

16:15 Discussion

FARM COSTS AND INCOME

(Centennial Room)

Session Chairman: J. Drew
Deputy Minister
Saskatchewan Department of Agriculture

13:30 **Input Situation and Outlook**

L. Brink
Agriculture Canada

13:50 **Provincial Income Outlook**

P. Lys
Statistics Canada

14:10 **Farm Numbers and Sizes — What's Ahead**

W. Jones
Agriculture Canada

14:30 Questions

14:45 Break

15:15 **Implications of Changing Energy Prices for Purchased Farm Inputs**

J. MacMillan
Vice-President
Canadian Energy Research Institute

15:35 **A Future Perspective on Crop Protection Chemicals**

John Oliver
Vice-President and Director
Eli-Lilly Canada Inc.

15:55 **Financing Agriculture — Perspectives on Recent and Future Changes**

W. Lee
Ohio State University

16:15 Questions

FOOD

(Gatineau Room)

Session Chairman: R. Carré
Assistant Deputy Minister
Quebec Department of Agriculture, Fisheries and Food

13:30 **Situation and Outlook for Food Prices**

Brian H. Davey
Agriculture Canada

13:50 **Situation and Outlook for Food Processing, Distribution and Retailing Sectors**

Howard Migie
Agriculture Canada

14:10 **Response to the Outlook**

Ray Bertrand
President
Canadian Grocery Distributors Institute

14:20 **Questions and Discussion**

14:45 **Break**

15:00 **Panel Discussion**

THE FUTURE OF FOOD MARKETING IN CANADA

A Food Manufacturer's Perspective
Stan Ballard
Vice President, Marketing
Burns Foods

A Food Retailer's Perspective
John Morris
Senior Vice-President
Safeway Stores Inc.

A Food Service Industry Perspective
Frank Go
Ryerson's School of Hospitality and Tourism Management

Questions and Discussion

PLENARY SESSION I

OPENING REMARKS

Hon. John Wise

It was five years ago today that I last stood here at the opening of the Agricultural Outlook Conference.

Most of the people who were here then are here again today. But it's not as if time has been turned back. You've changed. And I've changed.

For one thing, I'm confident in saying, we're smarter now than we were then. We've learned things. We've learned how to do things better.

We're better able to understand what's going on around us. And we are more capable of responding successfully to whatever the world throws at us.

We've made progress.

And that's the way I like to look at this special celebration of the 50th anniversary of the Agricultural Outlook Conference. Rather than thinking of it as a nostalgic trip down memory lane, I prefer to see it as an inspiring reminder that Canadian agriculture has come a long way in the past 50 years. And, while we don't know how things will change in the future, it's a safe bet that progress will continue to be made. Consider some of the things that have happened since the 1930s:

- grain yields have more than doubled;
- potato yields have increased four-fold;
- we're getting twice as much milk from half as many cows; and,
- we've managed to breed chickens that gain a pound of meat on two pounds of grain, and there have been great advances in beef and swine production as well.

Canada's agricultural output has more than doubled in the past 50 years, and if you look at the chart for exports, you see a line rising off the page.

Fifty years ago it took nearly a third of the Canadian population to produce our food, and now it takes less than five per cent.

I see lots of progress in related industries, too. For example, farm input companies are responding to current market demands by developing small four-wheel drive tractors, and dwarf corn varieties for marginal areas. I see processors responding to market demands by introducing salt-free foods; small-portion, ready-to-cook dinners in retort pouches; asceptically-packaged fruit juices, and so on.

We've come so far, it's tempting to say: "We've arrived. We can't go any further."

That's what Ransom Olds, the inventor of the Oldsmobile, said in 1925 as he was selling his company. Quote: "The field holds no more interest for me, because the motor car has reached the ultimate in design and technology."

I'll give you another example of limited vision: In 1899, the director of the U.S. government's Patent Office urged President McKinley to abolish the Office and his position because, "Everything that can be invented has been invented."

I have no doubt that our outlook economists are more accurate in their forecasts than Mr. Olds and the patent director.

But as any economist will tell you, forecasting is difficult, especially forecasting the future. And, indeed, it was a misreading of the future that led to many of the problems that are now being experienced in Canadian agriculture, and in government.

In the early 70s, the future was looking extremely promising. In 1974, commodity prices reached extremely high levels, and money was easy to come by. It was a time when land prices were rising by more than 20 per cent a year, and interest rates were less than 10 per cent. You were foolish not to start borrowing money and buying land. Within 10 years the capital value of farms rose ten-fold.

And so started the heavy dependence on credit that today poses a serious threat to a great many of our best farms. I am talking about a $20-billion-plus debt burden which is soaking up about 17 per cent of farm operating expenses.

Speaking of debt-burdens, in the same 10-year period, 1974 to 1984, the federal government's accumulated debt rose from $24 billion to $190 billion.

As a result, the federal government is spending one out of every three dollars it takes in, just to service the debt. Even then, we have been borrowing additional money, so the total debt is rising. In business terms, and every farmer knows this, it's the road to bankruptcy.

The federal government is now committed to stopping that downward spiral, but that requires strong, and sometimes painful, action. There have been cuts, and there may be more. These actions require the understanding and support of the public, including the agri-food industry.

I'm confident we are agreed on the need for fiscal restraint, and for careful targeting of federal spending.

We can't count on any sweeping, quick-fix solutions to the problems of agriculture, and I know there are many. Our actions must be carefully planned, and calculated for optimum efficiency and effectiveness.

The steps that the government has taken, and the ones we are planning to take, will, I hope, meet those criteria. Let me briefly review some of these initiatives.

1. <u>Prairie Drought</u>

   One of my first actions as Minister was to sign a $60 million federal-provincial agreement to help farmers in the Prairie provinces cope with the effects of the drought.

2. WGSA

Last month, my colleague Charlie Mayer and I announced a $123 million final payout under the Western Grain Stabilization Program, bringing total payments for the year to $223 million. We are planning to further modify the Act, to make it more responsive to farm needs.

3. John Block Visit

I met with U.S. Agriculture Secretary John Block, and outlined the direction we were taking in agricultural policy, and explained Canada's side in various trade issues. We've decided to meet twice a year, to keep the lines of communication and commerce open.

4. Grape Purchase

In co-operation with the Ontario Minister of Agriculture and Food, I announced a $15-million program to buy, process, and later sell surplus Ontario grapes; this program will help break up a marketing bottleneck, at very little net cost to the Treasury.

5. Credit

I've met with my provincial counterparts on several occasions, including a major conference on farm credit in Toronto in early November. We discussed the whole range of ways by which we could help ease the farm credit problem. We agreed on the need for fast action. I've also placed a freeze on all FCC recovery actions until January 15th, by which time I hope to have some new mechanisms in place to help save the good farmers with potentially viable operations.

6. Tobacco

I've introduced and received House of Commons passage of a bill amending the Farm Products Marketing Agencies Act so that tobacco growers can, if they wish, work towards the creation of a national marketing agency.

7. Fuel Tax Rebates

Farmers will be eligible for about $100 million in fuel tax rebates as a result of the measures announced by Finance Minister Michael Wilson on November 8.

8. Taxation Issues

The Finance Minister also announced that a Parliamentary Committee will be set up to examine three questions of farm finance: the taxation of part-time farmers, taxation of capital gains on farmland, and the possible use of agribonds or similar mechanisms to facilitate entry into agriculture. We have also decided to follow through with a provision in last year's budget which would allow farmers to rollover into an RRSP, up to $120,000 in taxable capital gains.

9. Agricultural Stabilization Act Amendments

Before Christmas I hope to introduce legislation amending the Agricultural Stabilization Act to allow for new ways of calculating support prices, changing the time period over which they are calculated, and for creating a stabilization fund which might be jointly funded with provinces and producers. As well, we intend to make non-Wheat-Board-area wheat a named commodity for mandatory support. We will set the stage for the creation of a voluntary, tripartite red meat stabilization program, if that can be negotiated with the provinces.

10. EEC Beef

As I said in Regina recently, I intend to ensure that Canada's beef producers do not have to withstand another year of imports above the Guaranteed Minimum Access Commitment.

In addition, I hope to be acting on the question of raising the limits set out under the Advance Payments for Crops Program. I'm working on a long-term dairy policy. I want to fill the vacancies on the National Farm Products Marketing Council...the list goes on.

I hope you can see from this list of the government's agricultural accomplishments in the past three short months, and our plans for the near future, that we are acting to help revitalize the agri-food industry, as promised in the Speech from the Throne.

However, let me make it clear that the federal government does not pretend to have the answer to all the industry's problems. And we don't intend to claim credit for the industry's success.

We want to assist where it's necessary, and to do so in the most economical way possible.

I know I haven't spent much time directly addressing the theme of this conference: "Developing our Resources in a Global Perspective". However, I hope I have demonstrated that this government is trying to create an environment that will allow the Canadian agri-food industry to develop its resources to their fullest potential.

And nothing will stimulate that development more than profits. In that regard, I'm very pleased to announce that, across the board, 1984 was more profitable than we thought.

According to our friends from Statistics Canada, realized net farm income for 1984 should be about 14 per cent higher than the low level experienced in 1983. And they're forecasting no change in net income from 1984 to '85.

That 14 per cent rise was far greater than anyone expected. There are a number of factors behind this, including the heavy deliveries of grain in the past few months, higher livestock prices, and the WGSA payments, which I mentioned earlier.

While the increase certainly is good news, it doesn't describe the problems that are being experienced by individual farmers, specific industries, or certain areas of the country.

On the other hand, it is an indication of the resourcefulness and the underlying strength of this great industry.

LONG-TERM PROSPECTS FOR NATURAL RESOURCES IN A CHANGING WORLD

C.S. Holling

Mr. Minister, Mr. Chairman, distinguished delegates, fellow speakers and participants, it gives me particular pleasure to be standing here in the month of December of this year. I am just completing a 3-year appointment with the International Institute of Applied Systems Analysis. As a Canadian natural born, it is a particular delight, as my formal duty with the Institute, to stand in front of you presenting this speech. The focus of my talk is going to be on living renewable resources--the food, the fiber and the fish of our world, and preeminently that most precious resource of all, that is, man's knowledge and skill.

To develop the argument, I will draw extensively on the experience of the IIASA, an organization supported by academies of science and like bodies in 17 countries, which has initiated a series of major studies, starting with a study of global energy in the early '70s, proceeding to a study of food production and distribution referred to by Mr. Connell. And now, with the completion of that agricultural trade study, it is moving toward the major program that combines the energy work, the agricultural work and a set of environmental studies--toward the theme of sustainable development in the global biosphere.

I am going to start my remarks with the conclusion that I came to. It is a truism often expressed that we are living in a globally interdependent world, because of the web of international trade that has evolved since the Second World War. It is equally true (and less obvious) that we live not only in a global economic community, but increasingly in a global community with growing ecological interdependencies. These interdependencies--global-economic and global-ecological --have, since the end of the war, developed a pattern of growth and change that has both been a benefit to Canada, and presents now to Canada and other countries in the world a major challenge.

In economics, our success in resource trade has been based in part on the very rich heritage of our natural resources, in part on our skill and ingenuity in developing these, but preeminently on the failures of other countries in mobilizing their own resources. I would argue that in the case of a country like the Soviet Union, for example (one of our major trade partners), the failures in that country are unlikely to continue. This major source of consumption of agricultural products for Canada will not only disappear, but will turn into a significant competitor.

This leads, then, to the first conclusion and first priority I will emphasize, that is, the need not only for an ability to look ahead, but to develop a network of international intelligence with respect to the resource policy and development activities in every country of the world. It is not so much, therefore, a look-ahead ability but a look-about ability, and I will describe some opportunities for that.

On the global ecological interdependencies, there is a variety of issues, ranging from the more immediate like acid rain, of which much is spoken in North America and Europe. In the somewhat longer term, there is the likelihood of climatic change because of accumulation of greenhouse gases from consumption of fossil fuels, as well as deforestation. Behind this web of essential connections that link industrial development with the atmosphere has come--in Canada and around the world, as a consequence of industrial development, resource degradation, degradation of our resources of water, of soil, of forests (and the analysis that resource development has been less resource development than industrial development and more than, as a consequence, resource degradation)--the second priority I wish to emphasize. This is the need for a massive program of resource development.

Finally, from both these processes of growth and change in economics and ecology since the Second World War has emerged, from the very success of our institutions and our growth, a certain inflexibility of institutions and a resistance to enterprise. I will argue that this leads to two final priorities. The first is a very careful effort to dismember those structures of constraint that have evolved over the decades, and secondly, the need to develop an energetic environment for innovation.

So those are my conclusions. Let me proceed then to the argument. It is based on a particular view of change. To explore different views of change, to give some sense of which view of change seems most appropriate as prescription, let me stand way back. We have at this conference an emphasis on global questions. Well, let me stand way back and talk about our plan on earth from the time the planet appeared 4 billion years ago. If we imagine at that time there being a civilization, an extraterrestrial civilization, highly stable, with the same capability of observing planetary atmospheres as we now have: that civilization would have detected a planet on which the atmosphere was dominated by high concentrations of carbon dioxide and methane.

Somewhere around 2-3 billion years ago, such an observer (an extraterrestrial) would have observed a profound change in the atmosphere with the appearance of oxygen, and, in a geological sense, a rapidly changing situation leading to the kind of atmosphere which we have now of approximately 20-odd percent oxygen. That was probably the most profound episode of pollution the earth has seen. Life up to that time, prior to the appearance of plants that had developed the ability to photosynthesize using the sun's energy and so produce oxygen, was anaerobic life. The appearance of oxygen was to existing life essentially a profound poison. A new force appeared in the earth (on this planet Earth) that grew not on physical and chemical laws and processes, but on biological.

Moreover, our distant observer would have seen, as the centuries and eons unrolled, a world with a high degree of atmospheric stability in terms of climate, climatic range, constituents of the atmosphere, such that one could argue that the atmosphere we have is in place and controlled by life itself. The world is a negative-feedback, self-regulated phenomena whereby life exists as we

know it, not because of the atmosphere, but with the atmosphere and oceans in a self-sustaining, self-regulating system. Moreover, our extra-terrestrial observer would have started to see about the beginning of this century another change in the atmosphere that perhaps because of its consistency in progression reflected a new force loose in the world. The change in the atmosphere detected would be the gradual accumulation of approximately 2-4% per year of an increasing concentration of carbon dioxide, together with similar rates of increase of some other constituents, like methane, for example. The hypothesis would have been at least suggested that there was again, just as with the appearance of plants, a new global force loose that was developing a web of connections and changes on this planet Earth.

That new force of course is man, an industrial man, drawing on the living resources of the world, transforming them, and in the process changing not just the local environment, but the global environment. It is clear that over the next at least 100 years there will be a minimum of doubling of carbon dioxide concentration and an increase in average temperatures in the order of 2-4° globally.

Now let me move from that very planetary view, very long-term view, to a more focused local view of events since the Second World War. Events since then have occurred during a period of remarkably benign climate, compared to past periods of little and large Ice Ages and so. The cooling trend that was predicted and evident from about '45 was ameliorated by the very concentration of CO2 that I referred to earlier. Climate has been remarkably benign during this period.

It was a period, too, in which man's ingenuity, technology and innovation opened to him bountiful resources of the world, and it led by its very success to the saturation of markets and to the development, I would argue, of a variety of institutional rigidities. The ingredients that determine success have within them also the ingredients to produce stasis. These ingredients are, first of all, that the world is predictable, so that the risks one engages in at least are known and measurable. It depends on the existence of a rich heritage and it depends on an environment for innovation. In such a situation, problems are simple; solutions are efficient. They lead to, and have lead to, a whole range of approaches that have been to the betterment of man and man's economic development, but they have these Faustian characteristics of success, surprise, crisis, failure and renewal.

Let me, as just a hint, draw on four or five examples and give you a brief sketch of resource development in various places in the world and in Canada. The successful suppression of the spruce bud worm population attacking the balsam forests of Eastern Canada by using insecticides certainly preserved the pulp and paper industry (and employment) in the face of a threatened outbreak in '48-'50. But that policy has left the forest and the economy of Eastern Canada more vulnerable to an outbreak covering an area and intensity never experienced before, at a time when economic dependencies demand continual and effective suppression of the insect.

Second example: effective protection and enhancement of salmon spawning on the west coast of North America is leading very dramatically to much more predictable success. But because of that, there is a triggering of increased fishing and investment pressure to the point where less-productive natural stocks are becoming extinct, leaving the fishing industry precariously dependent on a few enhanced stocks that are themselves vulnerable to surprise and collapse.

Third example: semi-arid savannah eco-systems have been turned into productive cattle-grazing systems in the Sahel zone of Africa, south and east Africa, the southern United States, northern India and Australia. But because of changes in grass composition, an irreversible switch to woody vegetation becomes common, and the systems become highly susceptible to collapse, often triggered by drought.

In each of these examples, the policy successfully reduced the probability of some event perceived as socially or economically undesirable. Each was successful in its immediate, short-term objective. Each resulted in the system evolving into one with qualitatively different properties, characterized by increasing fragility of the system itself and increasing rigidity on the part of the institutions managing those resources. It was examples of that sort that led to the articulation and generalization that resource development has not been really resource development--it has been industrial development in the face of resource degradation. The signals of that declining quality of the resource base, whether of soils, trees or fish--the signals generated have been hidden. They have been hidden by the economic subsidies or material subsidies we put into our agriculture, our forest and fisheries.

There is, therefore, because of those signals being hidden, a profound inertia toward change in the face of policies that are increasingly apparent as being rigid and brittle. And most profoundly, I would argue, it has led to the degradation of our most precious resource, that is, our intellectual resources of innovation.

What do we do about such a pessimistic prognosis? Well, what we do depends very much on how we diagnose where we are at this moment. Perhaps the events I describe and the events we all see throughout the industrialized and non-industrialized world, perhaps what we have experienced is just a minor "blip" in a process of a continual and actual change in development. I am arguing that is not the case, that we are on the threshold and into a point of sharp change--sharp, discontinuous change. The burden of evidence --economic, environmental, ecological, resource and institutional--is that we are in this process of sharp, discontinuous change. But the path out of such a sharp change is not uncharted; such dramatic, discontinuous events are common throughout mankind's history, and are common throughout a whole variety of physical, chemical, cultural, historical and biological systems.

Over the last 10 years, there has been a remarkable explosion of examination of the rhythms of change in these varieties of systems. From it has come an emerging generalization which (to over

simplify) emphasizes the operation of four distinct processes in any complex system, whether economic, biological, physical or chemical. One of those processes we can call exploitation, or innovation if you wish, whereby unbound resources are bound together in uninspected ways. The second is a process that has been called consolidation, whereby (given the developments through innovation or exploitation) a variety of institutions (if it is an economic situation) develop to mobilize, focus and distribute the benefits of that innovation. The third force is a force the economist Schumpeter called creative destruction: that as the inevitable rigidities developed in a process of consolidation of opportunity, the brittleness of those developments ended in their dismemberment in change, leading to the fourth major process of renewal, where the opportunity previously bound is released for a new cycle of renewal, exploitation and growth.

I argue that the burden of evidence indicates we are at a moment of profound change, where the need is to develop designs for surprise. There are, in general, in all these systems I have described at those moments, three prescriptions or three phenomena that occur. First is the easy or difficult removal of the accumulated rigidities. The second (which has to be done in concert with that, or the whole thing falls apart) is the preservation and mobilization of the capital of resource (nutrients, if it is an ecological system of knowledge) --the mobilization of that accumulated capital for new purposes. The third is an environment to stimulate innovation. If any of these three are emphasized without, in partnership, developing the others, the change that occurs is profound, difficult and can be in the form of a crisis. But if they are developed simultaneously in a balanced manner, such moments of change become opportunities for renewal.

Let me come to a conclusion, and be a little more specific and more immediate. In a number of countries in the world (the United States particularly, and perhaps in Canada), we are in a process by which a number of the institutional, bureaucratic and economic rigidities are being dismembered, we hope for good. Irrespective of that, the process of reducing those entrenchments, those inhibitions to innovation, is something that quite simply always occurs at moments of stasis and a need for change.

Secondly, in the efforts to preserve and redevelop the accumulated capital of knowledge and resources we have, there is a need globally from Africa to Canada for the massive redevelopment of graded resources. There are already in motion efforts to do that in the Great Lakes, a system that has gone from a situation of massive putrification, through extinction of something like over 20 species of fish, to quite a remarkable effort (from two countries, the United States and Canada) to redevelop that economic and ecological system.

Forestry in Canada, forestry in Africa, is in a desperately disastrous situation, with grossly degraded resources. It has been scarcely managed, it has been more mined. Soil, one of the bases on which an economy (and certainly an agricultural economy) is founded, is sharply degraded. All the replacement of the nutrients with fertilizer cannot hide the fact that increasing degradation of soil leaves an agricultural system increasingly vulnerable to unexpected events.

The development of genetic diversity (and maintenance of genetic diversity) is part of a system of continuous renewal. It obviously has high priority. And finally, in this character of preservation and mobilization of accumulative capital comes a need in all our provinces for a major emphasis on education (that most precious resource of all) of people's minds and skills. Those efforts to preserve and redevelop are really efforts to maintain and open options, to provide the freedom for the present and future generations, the freedom to choose.

The third phenomenon is stimulation of innovation. There is needed, after perhaps a decade of the most dismal neglect in Canada of science and technology, an emphasis on redevelopment and restimulation of fundamental science and fundamental technology. The ones that seem of the highest priority are three. One is bio-systems engineering. By bio-systems engineering, I mean that full range of things that grow from the divisions of agricultural plant breeding, through the more-modern developments of genetic engineering and the potential they provide, through to what one might call ecological engineering. We do know from economic systems now how to engineer an eco-system with the attributes of stability and resilience that provide the opportunities for these options and the freedom to choose.

Next, and preeminently, is information technology, the whole set of innovations that have come with the computer and communications systems. These innovations have transformed and are yet in the process of profoundly transforming our life.

Third, and finally, are innovations in organizational design. It is pretty clear now that the big developments in Japan, the big relative advantage Japan has developed over the past few years, have not been because of technological innovation. The advantage has been due to managerial innovation. And increasingly, we will see in this area the opportunity for organization and management designs that have those features of innovation to open opportunity.

Finally, with all these priorities, there is the need for more effective ability to have the foresight for adaptation. There are many changes in this interdependent world. Events in the Soviet Union have profound consequences for Canada. If the Soviet Union, as I mentioned, were to be successful in avoiding the failures of its agricultural systems, the consequences--political-security consequences for the world--would be absolutely profound, let alone the economic consequences for a country like Canada.

We need environments in which we can collaborate with people from other countries. In the process, we can begin to learn what they are doing so that we can frankly have foresight and can benefit. There was mention of the IIASA program in international trade, which provides such an environment for policy people, economists, administrators and politicians from the various countries who get together to explore the consequences of the global environment on national policies. And what is true for an environment like the IIASA agricultural trade model is true for a finite range of environments in which the goal is to develop an intelligence of what is happening in the world about us. That would be to our own advantage or to our disadvantage.

In conclusion, there are surprises looming for us. They are looming as a consequence of the fact that we are at a moment of structural change. And also as a consequence of a variety of events that are occurring because mankind is now a global force, a global force that has its obvious consequence in changing trade patterns. A global force because of man's consequences on ecological phenomena, such as climate. We are faced, therefore, with a situation that requires less a capability to predict (though that certainly is appropriate), but requires more an environment in which we can look about us, and use the intelligence in the international community to develop those key priorities of removing institutional rigidities, preserving and mobilizing the accumulated capital, and stimulating the environment for innovation. Thank you.

U.S. AGRICULTURAL POLICY DEVELOPMENTS AND PROSPECTS[1]

Kenneth R. Farrell

One of the many formidable tasks confronting the 99th Congress when it convenes late next month will be that of enacting omnibus legislation to succeed the expiring Food and Agriculture Act of 1981. Notwithstanding extensive preparations within and outside government, the legislative debate promises to be protracted, rancorous, and divisive. Its outcome is uncertain.

Some observers are predicting reincarnation of the 1981 Act with a few new whistles and bells to make it appear as a new bottle if not new wine. Others suggest that a confluence of political and economic events will set the stage for major changes in 1985. Some believe that the Congress, the Executive Branch, farm and other interest groups will be so badly split in their positions that 1981 legislation will simply be extended for a year while acceptable common ground is sought for omnibus legislation in 1986 or later. A few predict outright legislative failure and reversion to the outdated basic laws of the late 1940s.

My remarks on these matters are in two parts. First, I will sketch some underlying currents shaping agricultural policy in the United States. I will then turn to some of the specific issues likely to be prominent in the 1985 debate and speculate on possible outcomes.

UNDERLYING CURRENTS SHAPING AGRICULTURAL POLICY

Since the early 1930s when government first began to play a major role in agriculture, U.S. agricultural policy development has been evolutionary. Each successive piece of major legislation has been built on the legislation that preceded it, modified to reflect the changing times and circumstances. Throughout this period, the basic goals and methods of government intervention changed very little.

The patchwork of policies emerging from this evolutionary process has become increasingly antiquated. Agriculture is now so vastly different in structure and in its underlying relationships to the domestic and world economies that some of the very premises and objectives of long-standing agricultural policy are at issue. In my judgement, the forces underlying future development of U.S. agriculture are likely to further exaggerate the inadequacies of current policies. If not in 1985, the incongruities between current policies and the economic and political realities of agriculture necessitate basic reappraisal and realignment of those policies in the not too distant future. Five such underlying currents seem particularly significant.

An Expanding Productive Capacity

During the past 30 years, U.S. agricultural output has expanded at an average annual rate of nearly 2.5 percent. I foresee no inherent technical reasons why that long term growth rate could not be maintained well into the 21st century. The sources of that growth will be essentially the same as those of the past several decades -- technology, more intensive use of resources, more effective management, interregional shifts in production patterns, and, if necessary, a modest net increase in harvested cropland. Substantial expansion of the technical production frontier for both crops and livestock are possible with technology readily attainable "from the shelf". We are merely beginning to glimpse the productivity-enhancing effects of biotechnologies applicable after the turn of the 21st century.

The rate of growth in future production is, of course, dependent on economic as well as technological and institutional forces. At real price-cost relationships of 1979-81, a recent study at RFF suggests U.S. crop output could be expanded 30-40% by 2000 with existing technology and about a 9.0% net increase in harvested cropland--well below potentially cultivable land not now in crop production.[2]

Past policies have relied upon management of a single resource (land) to manage agricultural supply. At the same time, other policies promoted substitution of capital for land through development of productivity enhancing technologies. Several results have ensued: economic benefits of supply management have been capitalized into land values while the ownership of land has become increasingly concentrated and separated from operation of agricultural enterprises; historical bases for program purposes have become increasingly obsolete; the "slippage" of supply control programs has increased thus undermining their effectiveness; rigidities in land-use patterns induced by government programs have created economic distortions within and across crop production regions.

A basic, long term policy issue is the role government should play in managing agriculture's expanding productive capacity.

Growing Interdependence in Domestic and World Markets

In the course of the past 50 years of extensive government intervention in agriculture, the sector has lost much of its economic insularity. Policies predicated upon the model of a closed agricultural sector are increasingly ineffective and costly. Macroeconomic policies through their effects on demand, the cost of investment and operating capital, and the availability of off-farm employment opportunities have more to do with the economic welfare of farmers and rural people than does agricultural policy *per se*.

For decades, the export market was regarded as a residual or secondary market for many U.S. agricultural commodities. Policies were developed to assist in disposal of occasional or chronic surpluses in foreign markets. An array of protectionist policies was designed to effectively insulate domestic markets from imported, competitive agricultural products. But in recent years, the past decade in particular, dependence on

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1 The viewpoints expressed in this paper are solely those of the author and should not be construed as a statement of policy of Resources for the Future.

2 Feeding a Hungry World, Resources No. 76, Spring 1984, Resources for the Future, Washington, D.C.

export markets has grown steadily to the point of primacy for several commodities. Much of the expansion in agriculture's productive capacity in the past decade was stimulated by growth in export demand; much of the current excess capacity results from the decline in export demand since 1981. Even with prospects for slower growth in global demand, U.S. agriculture will become further dependent on sales abroad since growth in domestic consumption of major commodities is unlikely to be much more than 1.5-2.0% annually in the remainder of the 1980s and perhaps close to 1.0% by 2000.

A very basic policy implication deriving from interdependence is the need to discipline domestic agricultural policies to the realities of an open agricultural sector. That will require more flexible agricultural policies--policies which permit instruments to be adjusted readily to changing conditions in domestic and world economies and which permit agriculture to be more fully competitive in world markets.

Budget Costs and the Budget Deficit

The Federal budget deficit for the fiscal year just ended was nearly $200 billion. For 1985, the CBO projects a deficit of $198 billion, $217 billion in 1986, and $245 billion in 1987 assuming no changes in taxes or spending and a slight decline in interest rates. The long term consequences of these huge deficits are difficult to exaggerate. For our purposes, however, the important implication is that spending on agricultural programs will be under severe pressure for years to come. During the 1970s, Treasury net costs of farm programs ranged between $1.0 billion and $5.6 billion annually. In 1982 costs rose to $11.7 billion and in 1983 to $16.9 billion. Although costs have declined to about $6.0 billion in 1984, projections for the forthcoming five fiscal years indicate that costs could approximate $11 billion annually under current programs. Although farm program costs are a small share of the total Federal budget (2.8% in 1983), they are a highly visible component likely to be attractive in any serious effort to reduce prospective deficits.

I have listed the federal budget deficit as a long term constraint to future agricultural policies even though the budget process is an annual exercise. My reasoning is simply that we face chronic budgetary problems associated with policies of "guns and butter". Even under the most farsighted political leadership, correction of chronic deficits is years away. There are no quick-fix, politically acceptable solutions in sight. Agriculture will not escape the budget cutting process.

Organization of Agriculture

The economic organization of agriculture has changed so radically in recent years as to undermine the premises and political sustainability of farm commodity programs. When the forerunners of modern-day commodity programs began in the 1930s, farms were numerous, relatively small in size, and there was not much difference between the smallest and largest farms. Farmers were almost entirely dependent on farming for their livelihood. Commodity programs were justified on the grounds that a large and unorganized sector of the economy needed and deserved public assistance.

The picture is much different today. Of the 2.4 million farms in 1982, nearly 60 percent were very small operations (gross sales of less than $20,000 a year) accounting for only about 10 percent of total production. On balance, these "farms" lost money from farming and were entirely dependent on income from nonfarm sources. In the main, these farms are owned by people who wish to live in rural settings, but who do not depend on agriculture for their livelihood. Most of them do not need and do not participate in commodity programs.

At the other end of the size scale, less than 5% of the farms (those with gross sales of $200,000 or more a year) produce over 45% of total agricultural output. These farms, on average, had a net family income per farm of $184,000 and a net worth per farm of over $1.6 million in 1982. They are the major beneficiaries of farm programs; whether they require these programs to survive and prosper is debatable.

In the middle (farms with gross sales of $20,000 to $200,000) are about 35% of all farms accounting for 44% of production, farms that more nearly fit the traditional label of "family farms". These are the farmers who are perceived to most need commodity programs, many of whom would probably have a hard time surviving without these benefits. While this category of farms represents a wide range in size, the average net farm income and equity value per farm in 1982 were about $7,100 and $524,000 respectively.

Thus, as the economic organization of American agriculture has changed, it has become apparent that very small farmers don't need or use commodity programs while large farmers, who are well off by almost any measure, reap the lion's share of government program benefits. Equity considerations will therefore loom large in policy discussion when it comes to programs that primarily help large farmers. There is a growing sentiment to target at least a portion of program benefits to those who qualify on some basis of need, often defined as small to medium size farms or new entrants to farming with limited resources. Programs which fail to recognize the heterogeneity and structural characteristics of agriculture are likely to prove increasingly inadequate for all concerned--farmers, consumers, taxpayers, and policy makers.

The Waning Political Powers of the Farm Sector

In the late 1960s Don Paarlberg concluded that agriculture had lost control of its policy agenda. He was referring to the involvement of many diverse groups other than traditional farm interests in the policy process, the result being a gradual erosion of the political power of farmers to secure favorable legislation.

The continuity of farm commodity programs and the benefits reaped by farmers from those programs in recent years would seem to deny Paarlberg's conclusion. However, on closer inspection evidence mounts to support Paarlberg's conclusion.

- Numerous groups do in fact participate in the policy process, some with increasing effectiveness. These include conservation, environmental, consumer, and international interest groups. The failures of past policies to

achieve objectives, the widespread dissatisfaction with current policies, their high costs and the highly skewed distribution of program benefits are likely to attract numerous new groups to the 1985 legislative debate. These groups are likely to broaden the agenda of issues and options and thus dilute, to some extent, policies designed narrowly for farm interests.

- The alliance among general farm organizations, commodity groups, and the confederation of north-south political interests that once sustained the "farm bloc" are weak. The effective alliance of food assistance and agricultural program interests which contributed to relatively favorable legislative treatment of agriculture since the early '60s, even in an increasingly urban-oriented Congress, has become increasingly strained. It will be severely tested in 1985.

I do not anticipate a sudden dissolution of agriculture's political power. The committee structure of Congress makes it vulnerable to well organized commodity and farm organization pressure. But in the longer run, the advent of new interest groups and the pressure which will come inevitably from the changing economic environment of agriculture seem likely to continue to induce gradual change in the political climate of agricultural policymaking.

The picture that emerges from this overview is that of a diverse, science-driven, highly productive agricultural sector--a sector marked by increasing economic concentration, by increasingly close linkage to other sectors of the domestic economy, and by growing dependency on export markets to absorb the products of an expanding productive capacity. It remains, as agriculture always has been, an industry marked by short term and cyclical instability as a result of the vagaries of weather, the biological process, and economic policies at home and abroad.

Overlaying the sector is a mosaic of market intervention policies derived from a different era, policies which induce rigidities in resource use, and distribute benefits in a highly skewed manner with the major beneficiaries being large scale operators and landowners. Dissatisfaction with current policies and their administration is pervasive and growing as a result of past failures; high Treasury costs; their uneven distributive effects; and growing recognition that resolution of economic problems in the sector rests less with agricultural policies than upon macroeconomic and international trade and development policies. In combination, these circumstances are leading inexorably to reorientation of current agricultural policies.

THE 1985 FARM BILL

To what extent are these pressures likely to lead to change in current policies in the 1985 "farm bill" debate? In my judgement, the outcome will be a series of incremental, not quantum, adjustments in current policy. There are at least two reasons for that conclusion.

- Current economic stress in the sector. Although net farm income in 1984 will be substantially improved from the very low level of a year ago, a sizeable number of farmers are experiencing severe cash flow problems and difficulty in servicing highly leveraged debt obligations. Asset values of land have declined sharply from their peaks of the early 1980s, bankruptcies have increased, and farmer discontent is high. But, any attempt to infuse large amounts of government assistance into the sector would encounter what are likely to be tight budget constraints on spending for domestic programs. On the other hand any quantum change in policy to reduce current price supports would feel the political wrath of farmers in the elections of 1986.

- The recognition that in major part the solution to the current an prospective 1985 economic dilemmas in agriculture reside in macro-economic policies in the U.S. and abroad. To attempt to compensate for sluggish demand abroad and the high value of the dollar through quantum downward adjustments in loan rates or through massive export subsidies would be impractical, costly, and politically infeasible. It is possible that adjustments in macroeconomic policies, and ultimately the effect of the huge U.S. trade deficit may moderate our current historically high real interest rates and bring downward adjustments in the value of the U.S. dollar in foreign exchange in 1985. Should these conditions prevail, agricultural policymakers might have greater degrees of freedom to adjust current policies. But, the robustness and continuity of the U.S. economic recovery are in question. In either case, economic unrest in agriculture is likely to persist into the period in which the farm bill is to be written.

For these reasons, I believe 1985 will be a year of incremental adjustment along the path to larger policy changes. But even under these circumstances, some significant marginal adjustments in policy principles and directions could be made.

The inherent danger in the 1985 economic-political setting is that in their desire to deal with current economic exigencies in agriculture, policymakers may attempt to treat symptoms of basic problems with "quick-fix" solutions thereby thwarting needed adjustments in agriculture and agricultural policy. Even if agricultural policy, by itself, cannot bring about agricultural prosperity, it retains the capacity of doing mischievous damage!

To be more specific, the 1985 legislative debate is likely to center on six major issues.

The Level and Adjustors of Commodity Loan Rates and Target Prices for Major Basic Crops

There may be some attempt to eliminate target prices, but for reasons discussed previously this seems an unlikely outcome. At issue will be whether loan rates and target prices should be lowered to stimulate exports and bring about resource adjustments to cope with the current 3-5% excess capacity in the sector at prevailing prices. Also at issue will be means of adjusting future loan rates and target prices. The sentiment appears to be to move away from specification of those variables by Congressional fiat and cost of production indexes as in the 1981 Act, to some type of market price adjustors -- e.g. a moving average of domestic and/or world prices possibly linked in some way to domestic interest rates and the exchange rate for the U.S. dollar.

Grain Reserves

There seems little doubt that a grain reserve will continue as a component of agricultural policy beyond 1985. But there is as yet no consensus on its size, operating rules, and whether it should continue as farmer-owned or government-owned reserve. In recent years, the reserve has been managed principally to maintain or raise farm prices rather than in a mode to reduce supply instability. Some contend that overly complicated rules and "triggers" have contributed to increased instability rather than its reduction.

Other means under discussion to address farm price and income instability include income insurance schemes and more extensive use of option markets by farmers themselves. Although option markets for agricultural commodities are being expanded on trial basis, it seems unlikely that use of such devices will become widespread as long as non-recourse loans and other income-protecting programs are available under government auspices. Income insurance schemes seem unlikely to evolve beyond the experimental stages for some of the same reasons.

Targeting Program Benefits

There are also considerable discussion about targeting deficiency payments, credit, and other program benefits to those deemed most in need of such assistance, e.g. the middle size farms with sales of $20,000 to $200,000 and new entrants. However, it is unclear just what "means" tests should be applied for such purposes or how effectively such a program could be administered. Although such targeting might eventually be incorporated in agricultural policy, the more likely device for the next several years is that of farm payment limitations perhaps at a lower level than the current $50,000.

Linking Natural Resource Conservation Goals and Commodity Programs

There is renewed interest in soil and water issues. This interest takes many forms including linking the idling of acreage as a way of managing surpluses with improved soil conservation practices, and the more rational pricing of irrigation water in parts of the West, driven in part by a concern over subsidies that add to the budget deficit. Although the precise forms of linkage are not widely agreed upon, it seems probable that eligibility for commodity program benefits will be conditioned in some way by objectives of controlling soil erosion.

Capping Future Program Costs

Some are predicting that budget constraints will override all other considerations in the 1985 agricultural policy debate. The possibility of an outright "cap" on annual expenditures has been discussed leaving to the Secretary of Agriculture decisions on how much expenditures would be distributed among various program functions. Other indirect methods of limiting budget exposure through adjustments in loan rates, target prices and deficiency payments and by modification of program eligibility criteria seem likely. But, until there is clearer evidence of a serious commitment to reduce budget deficits, it is difficult to foresee how stringent the control of farm program expenditures will be. The first real indicator will not appear until the Administration's budget proposals are submitted in late January and the first Congressional budget resolutions are advanced in the first quarter of 1985.

Expanding Exports

Measures to enhance U.S. competitiveness in world markets and expand exports seem certain to be featured prominently in the 1985 debate. Obviously, decisions with respect to commodity loans rates, target prices, and grain reserves will have important trade implications. I expect a trade "title" of the 1985 Act to contain strong language concerning perceived obstacles to U.S. access to foreign markets and the use of subsidies by foreign governments which erode U.S. competitiveness in third-country markets. At the same time I anticipate authorization for expanded use of intermediate term export credit and possibly Public Law 480 concessionary sales.

Other Program Issues

There are numerous other issues to be addressed in 1985. Among these the dairy price support program would seem to be a prime candidate for modification. Sugar, peanut, and tobacco programs also will be under scrutiny although sweeping change seems likely. Research and education programs will be examined but here too, major change is unlikely.

Federal expenditures for food assistance programs currently approximate $17 billion annually and are by far the largest single component of the agriculture budget. There has been a symbiotic relationship between farm and food assistance interests in the Congress since the early 1960s which has made possible both farm and food assistance policies. But this coalition of interests will be tested in 1985. Food program expenditures have generally been restrained over the past 3 or 4 years (despite high rates of unemployment and rising poverty) while expenditures for price support programs soared to record levels. This has not gone unnoticed among food program supporters and they have already announced intentions to achieve a "fairer" division of funding between food and commodity programs. They can be expected to pay particularly close attention to certain commodities, including dairy and sugar.

CONCLUDING REMARKS

Last week the Reagan administration "floated" proposals to reduce fiscal year 1986 government expenditures by some $30 billion including a 50% reduction in expenditures for agriculture. But in the absence of specific proposals it is unclear how such reductions would be implemented.

Numerous organizations, traditional and non-traditional, are preparing to enter the policy debate 1985. Some have already taken positions and more will do so when the hearing process begins in the late winter of 1985. But the debate will not be fully enjoined until the Administration submits its farm bill proposals later this month or in early 1985.

By now you appreciate why the 1985 farm bill debate will be protracted, rancorous, and divisive and its outcome uncertain.

DEVELOPMENT OF THE AGRICULTURAL POLICY OF THE EUROPEAN ECONOMIC COMMUNITY -- ANALYSIS OF ITS MAIN DETERMINANTS AND OUTLOOK FOR THE FUTURE

Michel Petit

After a period of calm in the mid-seventies, tensions between the leading western countries engaged in international trade in agricultural products have heightened in recent years. These tensions are of long standing, however, and Europeans often have the impression that their allies, who are also their principal trading partners, have never accepted the basic principles of the Common Agricultural Policy (CAP). At a time when it has become more difficult to export agricultural products and such exports are bringing lower prices than they have for some years, the CAP is being sharply criticized. The refunds paid to European exporters, for example, are high on the agenda in the negotiations currently under way in the Agriculture Committee of GATT. It is true that since the CAP came into effect, the rate of self-sufficiency in the EEC has greatly increased. In the case of a number of products, the European Community, formerly a net importer, has become an exporter, and its exports are playing an important role on world markets. These exports are financed in part from public funds. Would they be possible without the subsidies provided in the form of refunds? Many trading partners think not and believe that pressure should be brought to bear on the EEC to bring these practices to an end. Some have not hesitated to exert such pressure, even seeking to enlist allies within the Community, where high support prices are causing hardship to consumers and imposing an increasing drain on the finances of the Community. These countries are asking that reason prevail. European farmers wield disproportionate political influence, but there has to be a limit. Has the limit been reached? Is this the interpretation to be given to the compromise of March 1984, which in particular introduced milk quotas?

This paper will address these concerns by attempting to trace through the history of European agricultural policies and the establishment of the CAP the causes of the present situation. We will then review the pressures for reform of the CAP which have been exerted for more than ten years and examine the development of the recent crisis that has shaken the policy, as well as the compromise of March 1984 which has provided at least a temporary solution. Finally we will consider the outlook for the future that is suggested by this analysis and discuss in particular some questions of direct interest to Canada.

EUROPEAN AGRICULTURAL POLICIES: THE HISTORICAL FACTOR

The widely differing reactions of the various European countries to competition from overseas grain, particularly American, at the end of the nineteenth century, still weigh heavily in discussions in Europe today. The only change of comparable historic significance was the establishment of the common agricultural market in the 1960s. As we know, some countries, such as France and Germany, elected to protect their agriculture, while others, including the United Kingdom, chose to liquidate it, and still others, such as Denmark and the Netherlands, allowed entry of low-priced grain and took advantage of the opportunity to develop and export their animal production, particularly pigs, poultry and cheese, to neighbouring markets in Germany and the United Kingdom, which were experiencing rapid growth.

The choices made at that time and the subsequent evolution of agricultural policies have to be analysed in terms of political economy in order to be understood.

France

In France,(1) the adoption of a protectionist stance was based mainly on a desire to promote an alliance between the middle class and the farmers at a time when there still remained vivid memories of the revolutionary insurrection of the Commune of Paris (1871) which followed four revolutions in less than a century and had to be suppressed with bloodshed. The struggle against socialist ideas appeared as a major objective among the leading groups in the decades that followed.

Ownership of land by numerous operating proprietors was seen as the best guarantee of social peace. Their ruin would have swelled the ranks of an urban working class much more difficult to control. There was no question, however, of maintaining the old status quo, particularly since the Third Republic was in its infancy and lacked assurance vis-à-vis the still powerful monarchists, who drew support from the remnants of an old landed aristocracy and a clergy alarmed by the spread of "advanced ideas" in which religion was regarded as little more than a collection of outmoded superstitions. Anxious to secure the political support of the farmers, the leaders of the Third Republic engaged in an ideological competition with the conservative forces and established institutions that could free the farmers from the economic system in which they had been held fast and exploited (syndicates, supply and marketing co-operatives, the mutual insurance and credit movement).

Little was done, however, to promote the training of farmers or encourage technical progress, and despite a significant substitution of capital for labour, long-term trends prior to World War II show the entire period to have been characterized by slow growth of agricultural production and relative stagnation in terms of technical development, particularly in comparison with neighbouring countries. The protectionist policy has since been criticized by various authors, notably AUGE-LARIBE (1950), who suggested that it had served to fossilize an outmoded structure. From a strictly economic point of view, however, there is no evidence that this orientation caused serious distortions in terms of what might have been an optimal allocation of resources among various productive activities. Technical stagnation and a relatively high proportion of the labour force employed in agriculture are in fact quite consistent with a slow rate of industrialization and a rather stagnant demand for food products in a period of slow population growth or regression.

This interpretation is reinforced when the period following the second world war is taken into account. Although protection of agriculture remained unquestioned, there was a radical change in agricultural policy, accompanied by a marked increase in production and rapid modernization of the industry. Both growth and modernization were made possible by the general economic expansion, industrial development and the attraction of the work force from agriculture toward other sectors. In other words, the development of agriculture was influenced much more by general economic conditions than by the thrust of agricultural policies. It is the latter, in fact, that is dependent upon the former.

This is not to imply, however, that agricultural policies are unimportant, as witness the vigour of debates on the subject. It took the severe depression of the Thirties and a major political change, engendered by the accession to power of the "Front populaire" in 1936, to bring about the establishment of the Office du Blé (ONIB) (wheat board), which marked the beginning of government intervention in the agricultural markets. It is interesting to note that this intervention, which in France as in many other countries, was a subject of considerable controversy, has never since been challenged, notwithstanding the widely varying economic policies of succeeding governments during nearly fifty years. In the 1950s, after the reappearance of "agricultural surpluses", debates on agricultural policy were characterized by the continual struggles of professional farm organizations to obtain the highest possible support prices in the face of pressures to limit the corresponding expenditures from the national budget. They achieved a major victory in 1957 with the indexing of agricultural prices to the general price level. This measure was speedily rescinded, of course, when General de Gaulle returned to power in 1958. The same government, however, played a vital role in the establishment of the common agricultural market, which was to ensure remunerative prices for French farmers while at the same time easing the burden on the State.

Germany

In Germany,(2) the protectionist option was again the result of the political situation at the end of the nineteenth century. After the customs union (Zollverein) and a brief period of liberalization in the grain trade, protectionism was enshrined by the customs tariff legislation of 1879 and 1880. The British market for German grain had been lost earlier. As CECIL explains (1979), the 1879 and 1880 statutes solidified the alliance between heavy industry and agriculture, reinforced the power of the Junkers and ensured the preservation of a significant agricultural sector. On the basis of this alliance, Chancellor Bismark was in a stronger position to combat the socialist ideas of the SDP, a party much more interested in garnering support from urban masses than from the farmers, whom they considered a rapidly vanishing breed.

Caprivi, successor to Bismark, made concessions on agricultural tariffs when he renegotiated the trade treaties. This action angered the farmers, who banded together to form the Bund der Landwirte (BDL), an organization that played a considerable role in Caprivi's downfall in 1894. His successor, Bülow,* anxious to strengthen the alliance between "farm and factory", that is to say, between the major industrial interests and those of the large agricultural estates in Northern Germany, increased customs duties and consequently, the prices of agricultural products. Between 1891 and 1910, the average price of wheat in Germany was about 35% higher than the average price on the open market in London.

Nevertheless, prior to the first world war, Germany was importing large quantities of agricultural products in the form of foodstuffs and animal feed, particularly Russian corn and barley. During the war, supplies became increasingly uncertain as a result of the external blockade and the reduction in domestic production. In the winter of 1916-1917, the daily ration for many people fell to about 1000 calories. This experience had a considerable impact on public attitudes to agriculture and food supplies. Food sufficiency remained for many decades a major objective of agricultural policy.

Postwar reconstruction was comparatively rapid; agricultural prices remained fairly stable until 1924, when they began to decline. The right-wing coalition in power restored the customs duties in 1925 over the opposition of the SDP, which continued to defend the interests of urban workers. Most economists of the day were advocating free trade. The drop in prices, however, fueled agitation by the farmers and led to the establishment of the "Green Front", which succeeded in promoting a number of government initiatives. These proved insufficient, and once again, it took a major political change, represented by the coming to power of the Nazis, to bring about drastic measures; these included the setting up of a government food board (Reichsnahrstand) and regulatory boards governing imports of the principal commodities (Reichsstellen). So gratifying were the results that active government intervention in agricultural markets became an accepted principle. After the second world war, the privations of which had reawakened concern for food self-sufficiency, the fledging federal government could not afford to fail in the area of agriculture. An atmosphere of crisis prevailed; the western zones, within the Federal Republic, had been cut off from their traditional sources of supply, the cold war was at its height, especially around Berlin, accentuating the sense of insecurity. It was understandable that under such conditions, agriculture should have been closely protected. When the general economic situation improved, the standard of living rose rapidly; the farmers then appeared relatively disadvantaged and deserving of special treatment. This explains why German prices were among the highest in Europe when the time came for unification to establish a common agricultural market.

Britain

In Britain,(3) the situation of agriculture in the latter part of the nineteenth century was very different from that in the continental countries. The drop in grain prices during the 1870s brought no change in agricultural policy. To some extent,

*Caprivi's immediate successor was Hohenlohe-Schillingsfürst, who was succeeded by Bülow in 1900 (Encyclopedia Britannica).

debate had turned in favour of free trade at the time of the repeal of the Corn Laws. The farm interests, represented in the Commons and especially in the House of Lords, were defeated by the urban interests, which favoured low-cost food and demonstrated their power in successive general elections.

During the first world war, however, this "laissez-faire" attitude was abandoned. Legislation governing wheat production, passed in 1917, introduced high-level, government-supported price maintenance. To the dismay of the farmers, support of the wheat market was withdrawn in 1921, though the government continued to play a role in agriculture (support for sugar beets, organization of farm credit, regulation of wages in the agriculture industry, farm equipment, and so on). Interventions in the marketplace during the depression of the Thirties were less spectacular than in many other countries, but government involvement developed through support of producers' organizations and negotiation of volumes of imports from various countries by market supply commissions. This pragmatic device made it possible to maintain the Commonwealth preference while at the same time exerting effective pressure on countries like Denmark. As a result, British agriculture was in a position to provide in large measure for the requirements of the second world war. It is true that agricultural and food products continued to be imported in considerable quantities, but in six years, domestic agricultural production, measured in calories, was doubled mainly as a result of the development of vegetables rather than animal production. This achievement was made possible through close co-operation between the government services and the leading agricultural organization, the National Farmers Union. It was not surprising, therefore, that this body should have become a very powerful pressure group by the end of the war. The farmers held bitter memories of the "betrayal" of 1921. As a result, successive governments, first Labour, then Conservative after 1951, maintained the price support policy, finally adopting the deficiency payment system as the instrument of this policy.

As was the case with France, the history of debates on agricultural policy is one of contradictions between the claims of the farmers and a concern to maintain the financial burden on the country at an acceptable level, despite the expansion of domestic production and the decline in world prices expressed in real terms. In 1961, the Minister of Agriculture declared that the support system would have to be revised, regardless of whether the United Kingdom joined the European Community. The result of these conflicting pressures was a decline in agricultural prices measured in real terms (more than 30% from 1956 to 1970).

Conclusion

In conclusion, these three examples suffice to illustrate some aspects of government intervention in agricultural markets which have weighed heavily in the past, and in many cases still carry considerable weight, in debates on the Common Agricultural Policy.

Government involvement in agricultural markets had, in any event, become permanent and widespread before the CAP was adopted. There was general agreement that the agricultural sector should not be left to the free play of market forces.

The nature of this involvement, however, and the degree of protection afforded agriculture varied widely from one country to another. The variations stemmed from the place occupied by agriculture and from power struggles within society in each country. Agricultural policies appear at times to be the result of a resolution of conflicts of interest by means of the political process. In the long term, such conflicts of interest develop in response to strong economic forces, affecting particularly, on one hand, the balance of supply and demand and thus the levels of agricultural prices and incomes, and on the other hand, the financial obligations imposed on the State by the agricultural policy. The outcome is a new deal which may pose a challenge to earlier compromises. Levels of support prices are determined on the basis of such accommodations. When the common agricultural market was established, the internal compromises that had produced the agricultural policies of the various countries were different. These differences were a factor in the development of the common policy. Their effect is felt all the more today in that the entry of Britain, Ireland and Denmark took place after the development of the CAP, which resulted mainly from a Franco-German compromise.

THE ESTABLISHMENT OF THE COMMON AGRICULTURAL POLICY IN THE SIXTIES

When the common agricultural market was created in the 1960s, the six Member States of the original Community had to reconcile their agricultural policies, a not inconsiderable undertaking. The difficulties of this reconciliation are reflected in the content of the CAP, particularly in the area of price support levels. We will first examine how the CAP grew out of a Franco-German compromise, by analyzing the forces that contributed to the development of a market intervention policy. We will then review the very spirited discussions provoked by the publication in 1968 of the "Mansholt Plan", which sought to add a further dimension to the agricultural policy in order to promote a thorough reform of production structures. Such was the opposition aroused by these proposals that the measures finally adopted were of limited effect. In essence, the CAP has remained a market management policy.

The Franco-German Compromise and the Adoption of the Common Agricultural Policy

When the Gaullists came to power in France shortly after the signing of the Treaty of Rome and the establishment of the European Common Market, it seemed clear to them that the treaty would result in a common market for industrial products. This meant that French industry would be exposed to direct competition from foreign manufacturers, particularly the powerful German industrialists. Such a situation was acceptable only if a common agricultural market were created at the same time, to provide the French agricultural sector with worthwhile markets at profitable prices. This

would enable the government to withdraw its support of agricultural markets and divert the budgetary resources thus released to the modernization of the economy, particularly industry. This position was so well understood by the participating countries that the German authorities agreed to take the grave political risk of imposing on their farmers the principle of unified pricing at the European level, which meant a reduction in German prices! In these circumstances, it was understandable that the common price level finally agreed upon was close to the top of the range of national prices, so as not to impose too drastic a drop in prices in Germany. Grain prices in that country fell by from 10 to 15%, and farmers received direct income compensation payments. As TANGERMANN (1982) points out, this was accomplished over the strong opposition of the "Deutschen Bauernverband", the powerful professional organization which represented agricultural interests in Germany on virtually a monopoly basis. There is no doubt that the high level of support given agricultural prices when the Common Market came into being had a significant effect on the subsequent development of the CAP and that this effect continues to be felt.

The adoption of this policy of market intervention was in fact based on three principles which remain the cornerstone of the doctrine by which the actors in debates on reform of the CAP are guided.

These principles are: a unified market, community preference and financial solidarity. In the context of economic integration, the need for a unified market seems self-evident. Community preference implies that every purchaser must be offered a choice in such a way that in making his decisions, it will be to his advantage to give preference to goods produced within the Community over those from outside countries. Financial solidarity means that the financial obligations arising from the very diverse measures adopted to implement the first two principles are supported by all the Member States and are shared in accordance with decisions governing the overall expenditures of the Community.

As we will see below, these principles have frequently proved difficult to apply in the more than twenty years since they were adopted and they have been given varying interpretations. None of them has been strictly adhered to. Nevertheless, they could only be seriously challenged as a result of a major political crisis, provoked possibly by powerful economic forces that made their application impossible. For the time being, this has not occurred. There has been much pressure to reform the CAP, bu the compromise of March 1984, while constituting in some respects a considerable reform of the policy followed until that time, still essentially embodies these three fundamental principles.

Debates on Structural Policy

In December 1968, the Commission, at the instigation of its Vice-Chairman, S. Mansholt, put forward a plan for a complete reform of agricultural production structures. It was based on a simple diagnosis: as a consequence of production structures unsuited to current needs, market management measures were being rendered ineffective and the resulting chronic surpluses (particularly of milk, wheat and sugar) were imposing an intolerable drain on the Community Budget, without providing the farmers with an adequate income.

Mansholt had been saying for some time that the Community's main problem in the agricultural area was one of production structures. This point of view was consistent with both the prevailing economic thinking and developing agricultural policies in some member countries. In terms of economic theory, the structural problem had to be seen as resulting from inadequate mobility of the factors of production: with supply increasing more rapidly than demand, optimal allocation of the factors of production required that resources be transferred from agriculture to other sectors. It was a matter of adjustment, and consequently a transitional problem, which could be dealt with through agricultural policy measures. In several member countries, including the Netherlands and France, such measures had already been initiated. The Mansholt Plan was aimed at developing this policy and extending it to the entire Community.

When the plan was made public, however, it aroused strong controversy and severe criticism. This may appear paradoxical, particularly in the case of France. The so-called "structural" policy had in fact been put into effect in 1960 and 1962 by the Gaullist government over the opposition of the main professional agricultural organization, the FNSEA, but with the support of a small number of farmers organized within the Centre National des Jeunes Agriculteurs (CNJA). These were primarily young farmers, recently established on small or medium-sized farms, usually in cattle-breeding areas, who had little to gain from price support measures. Their essential of modernizing and expanding their operations called for available land and favourable credit terms, precisely the requirements a structural policy could be expected to address. By 1968, the young members of the CNJA had had time to gain a dominant position within the FNSEA; they could thus have supported the Mansholt Plan.

A clue to the opposition encountered by the Mansholt Plan may perhaps be found in a statement by Mr. Debré, who was Premier in 1960 and 1962. Although he had played a key role in cementing the alliance with the CNJA, he nevertheless accused Mr. Mansholt of acting irresponsibly. A cynical interpretation of this accusation might be that the policy of structural modernization followed in French and advocated for Europe was the correct one, provided it was not announced that its objective was to eliminate a large number of farms. Presented in these terms, it could not have received the support of the agricultural organizations, which would thus be threatened with the loss of more than half their members. A slightly different interpretation can also be suggested. As T. Heidhues has pointed out (HEIDHUES, 1979), governments have learned that attempts to prevent change are doomed to failure; they have also learned that promoting overly rapid change can result in social upheavals that society might be unable to control(5). In retrospect, the Mansholt Plan may have represented a proposal that overstepped this threshold of social tolerance. This interpretation is consistent with the fact that more than three years after the publication of the Mansholt Plan, a much watered-down version of the policy it proposed was adopted by the Community in the form of three socio-structural directives.

The directive on the modernization of farming operations provided grants and very favourable credit terms for applicants who established a "development plan" and could show that the plan would enable them to achieve an adequate income level. The directive concerning "encouragement to discontinue farming activity" was aimed at making land available to facilitate the growth of potentially viable operations. The directive on "socio-economic information" was designed to improve occupational training and the efficiency of farmers.

A fourth directive on mountain farming was adopted in 1975. Commendable though the objectives of these measures were, the high costs involved and the relatively modest amounts allocated have continued to limit the scope of the structural policy. The remainder of this paper, therefore, will focus on the market management policy.

PRESSURES TO REFORM THE CAP IN THE SEVENTIES

The admission to the Community of three new members - Denmark, Britain and Ireland -- in 1973 occurred without challenge to the CAP, which formed part of the Community package. Generally speaking, it may be said that the agricultural policy posed no serious problems for Denmark and that it was a blessing for Ireland, but that it aroused strenuous opposition in Britain. As already indicated, the internal social compromise in the United Kingdom which had resulted in the British agricultural policy was a far cry from the compromise that had produced the CAP in the Community of Six. In brief, the CAP could be described as heavily weighted in favour of farmers to the detriment of consumers and taxpayers. It was scarcely surprising, therefore, that the enlargement should have exacerbated criticism of the CAP. Pressures for reform of the Policy, however, were numerous and of widely varying origin, extending far beyond the British context. Let us look briefly at the principal arguments.

Consumers

In Europe, as elsewhere, consumers' organizations are less powerful than agricultural organizations. They have played a limited role in discussions related to agricultural policy. There are, however, two noteworthy exceptions to this general rule. When Britain entered the European Community, the high level of support prices was the subject of strong criticism. Prices of agricultural products were widely regarded as the main cause of inflation in the country. Whatever validity this conviction may have had, there is no doubt that it had significant political effects. It was one of the major factors that determined the positions adopted by the two main political parties in Britain with respect to Europe, and it thus influenced the British government's position in its dealings with the Community. In recent years, pressures on the CAP with respect to levels of food prices seem considerably diminished. The parallel with the United States in this regard is striking. Despite the marked differences in its situation and its history, concern over consumer prices has been in general no greater a determinant of that country's agricultural policy. In 1973, however, public reaction to rapidly rising inflation produced immediate political repercussions. The fight against inflation became the first priority, with food products receiving special attention. One result was an embargo on exports of soybeans, a measure clearly contrary to the interests of American producers. In addition, for the first, and so far the last time, the agriculture legislation passed in 1973 included a reference to consumer protection in its title. It would seem, therefore, that it is the rate of increase, rather than the actual level of rising consumer prices that has influenced agricultural policy, both in Europe and in the United States.

The second exception to the rule that consumer organizations have little power in determining agricultural policy has to do with product quality. Consumer groups demonstrated their power in Europe, and particularly in France, a few years ago, when they called for a boycott on veal in order to enforce stricter regulation of the use of hormones in the feed given the animals. Regardless of the technical validity of the arguments, the boycott was a success for its organizers. This episode illustrates clearly that very real power exists when food quality is under suspicion. Here again, the parallel with the situation in the United States is noteworthy.

External Pressures

In compliance with GATT regulations on customs unions, the establishment of the European Community necessitated negotiations with third countries to offer them concessions in compensation for the loss of trade that they might suffer as a result of the formation of the union(6). This marked the beginning of a confrontation, notably with the United States, that has continued to this day. In the Sixties, the chief concern of the exporting countries was their access to the European market, to which the very principle of community preference posed a threat. In practice, these fears have been largely dissipated as a result of economic growth which brought a general increase in the volume of imports and, in particular, a very rapid rise in imports of animal feed (principally corn and soybeans).

In the early Seventies, the explosion of prices on world agricultural product markets indicated for a time that the long-term trend had been reversed and that the world was more likely to face the danger of food shortages rather than surpluses. Tensions between Europe and the principal exporting countries relaxed. It was an uneasy calm, however, and of short duration. The multilateral negotiations of the Tokyo Round (1973-1979) remained at a standstill for several years over agricultural issues. The European Community held the principles of the CAP to be non-negotiable and put forward an ambitious framework of agreements by products. This position was unacceptable to the United States, which was opposed to such agreements in principle and on political and economic grounds. The negotiators finally came to the conclusion that few concessions were possible and that they could achieve no fundamental change in the status quo. Some arrangements were arrived at with respect to specific markets and the code governing export subsidies was spelled out. This gentleman's agreement, however, was short-lived. The controversy resumed with even greater heat in 1982 when the Reagan Administration revived a number of complaints which had been pending with GATT, added others and, in particular, voiced increasingly strong public criticism of the "refunds" paid by the Community to European

exporters. To make clear that this was not merely a verbal attack, the American Administration massively subsidized a sale of flour to Egypt in January 1983, thus excluding French suppliers from one of their traditional markets. The controversy has not abated, and the list of "hot issues" continues to lengthen.

It is too early to say what the outcome of this confrontation will be. The considerable pressures being exerted from outside, however, do not appear to have had any significant effect on the internal debate in Europe regarding reform of the CAP. omplaints by Australia, and particularly New Zealand, have probably produced greater reverberations. These two traditional suppliers of Britain, within the Commonwealth, lost their preferential trading relationship with the United Kingdom when it joined the Community. Transitional arrangements were made, in particular to preserve some markets for New Zealand butter in Europe. Negotiations for the periodic renewal of this professional access have often been acrimonious and may well have contributed to an exacerbation of the basic differences among Member States as to the desired orientation of the agricultural policy. They have, among other things, reinforced the feeling of frustration in British public opinion with regard to the CAP, which is viewed as protecting an inefficient agricultural system in an affluent continental Europe at the expense of European consumers and much more efficient New Zealand producers and, what is worse, to the disadvantage of cousins in a distant land that offers little promise of economic growth.

All in all, however, these external pressures carry little weight in debates on the agricultural policy. The supreme decision-making authority is the Council of Ministers, each member of which represents his national government first. Here considerations of agricultural income on one hand and the budget on the other are much more important. The Commission, which plays a not inconsiderable role through its authority to make proposals, usually acts in what it perceives to be the general interest of the European Community. On the question of agriculture, it has always shown great respect for the basic principles of the CAP while endeavouring to come to terms with the various constraints to which it is subject. In this institutional mechanism, there is no component with sufficient authority actually to negotiate with third countries. Although it would obviously be in the interest of the European Community to reach agreement with the major exporting countries, especially the United States, its institutional rigidity constitutes a serious obstacle to compromise. It is true that on their side, the United States, and possibly even the Anglo-Saxon countries in general, are demonstrating considerable inflexibility on matters of principle.

Pressures to Expand the CAP

In opposition to the pressures being brought to bear by critics of what is regarded as the excessive protectionism of the CAP, there are the urgings of those who decry the partial character of the Policy and advocate its extension. For purposes of clarity, these pressures can be divided into two categories: those that are based upon regional disparities and those that focus upon specific commodities which enjoy preferential import status in the Community and are in competition with protected products.

Products from the Mediterranean areas fall into the first category. It is clear that intervention is much less effective in the markets for wine, and especially fruit and vegetables, than in those for grain, sugar and dairy products. This may be attributable in part to the lesser political power of the producing areas. It is certainly not unrelated to the nature of the products, which are of much less uniform quality and are usually more difficult to store than the products of northern Europe. Effective intervention makes it legally possible for a government agency to buy at the intervention price and place the quantities purchased in storage in order to withdraw them from the market. Defining an intervention price presupposes the definition of a standard quality. If storage is not feasible, the products taken off the market must be denatured (distillation, of wine, for example) or destroyed (fruit thrown on the public dump after being rendered unfit for human consumption). Such measures are always expensive and unpopular. Since production of these commodities is concentrated for the most part in the Mediterranean areas, which are much poorer on average than the northern areas, this regional imbalance obviously poses a serious political problem (see FERRO, LECHI and RICCI, 1979). Much pressure has been brought to bear to secure the same treatment for Mediterranean products as is extended to grain and milk.

In the second category, the pressure to extend the CAP arises from production gaps which result in imbalances in competition among European agricultural products. The best known and most important commodity involved is the soybean, which is rich in both oil and protein. More recently, however, increased imports of cassava and corn gluten feed, used as animal feed, have drawn attention to these products. As a result of agreements reached within GATT, soybeans are allowed duty-free entry to the Community. Soybean oil, however, is in direct competition with other vegetable oils and with butter at a time when disposal of large surpluses of dairy products represents a very considerable expense to the Community. Soybean oilcakes, in turn, compete with domestic production of high-protein commodities, the development of which is a major objective in several member countries desirous of reducing their dependence on the United States and promoting an effective import substitution policy. It should be pointed out in this connection that high stakes are involved and strong pressures are being exerted in the opposite direction to maintain the status quo.

The situation with respect to grain substitutes is similar to that of soybeans in that imports have obviously been stimulated by high grain prices in relation to world prices during the past five or ten years. European grain growers are exerting pressure to extend protection of their market over the opposition of breeders and animal feed industries.

Budget Constraint and Allocation of Costs Among Member States

After a significant decline in 1973 and 1974, the budgetary cost of market intervention (Guarantee section of the EAGGF)(7) rose between 1975 and 1979 at an annual rate of 23.3%. In the same period, the annual rate of growth of actual resources (levies, sugar assessment, customs duties and 1% of the VAT basis) remained on average in the neighbourhood of 12%. It is clear

that such an imbalance cannot long be maintained. The situation is giving rise to considerable pressure to expand the CAP. With increased production in Europe, expenditures are rising -- especially in connection with interventionist measures and export refunds -- while revenues generated by the agricultural sector (levies and customs duties) are declining. The difference is being made up by drawing on national resources on the basis of VAT revenues. Agreements among Member States provide, however, that this contribution be limited to 1% of the basis for this tax. It was expected that this limit would be reached in 1979 or 1980; as we will see later on, the strengthening of world prices extended this deadline to 1984. It was precisely in that year that a compromise was reached on a significant reform of the CAP, suggesting that in Europe, as elsewhere in the world, budget constraints are a major factor in the development of agricultural policy.

Within the Community, the budget debate was complicated by disagreements among the Member States with regard to the sharing of costs.

The matter first became a major political issue in Britain. A policy to tax imports and subsidize exports necessarily involves net negative budgetary transfers between member countries that are net importers and the Community. It was not surprising that the British should have found the CAP unfair and too costly, given the much greater wealth of other Europeans, especially those in the northern countries. Many countries, on the other hand, see this question as a challenge to the basic principle of financial solidarity, which is the tangible expression of membership in a community; the transfers associated with a budget that represents less than 1% of gross European domestic production cannot encompass all the advantages and disadvantages -- tangible and intangible -- of such membership. We see therefore the extent of the disagreement and the depth of the resentment over the British contribution to the Community budget. Since expenditures associated with the agricultural policy represent about 70% of this budget, it was inevitable that the dispute over the allocation of costs among Member States should have had profound repercussions on the debates on the agricultural policy.

Monetary Disequilibrium and the Trend Toward Renationalization of Agricultural Policies

In 1969, shortly after the achievement of a unified pricing system, the franc was devalued and the mark revalued. To maintain unified prices in the Community, those expressed in francs would have had to be increased and those in marks decreased. To the governments of France and Germany, this was a political impossibility: how, for example, could the advantage given French farmers be justified before the public when the country as a whole was being forced to accept a program of austerity? This dilemma led to the introduction of Monetary Compensatory Amounts (MCA) and green currency. To maintain the viability of intra-community trade, an amount was withheld and paid to the EAGGF in respect of exports from France to make up the difference between the European price and the devalued French price. The procedure can be explained by saying that the French price was then calculated on the basis of the European price, expressed in Units of Account, by using a different conversion rate from that applied in the foreign exchange market after devaluation. The conversion rate used to calculate agricultural prices was called the "green franc". In the situation in 1969, the green franc was revalued and the green mark devalued. The introduction of MCAs was considered at the time to be a temporary expedient. As we know, the monetary situation has been much more volatile since the early Seventies than it was in the Fifties and Sixties. The system of floating exchange rates became generalized and inflation accelerated, reflecting greater variations from country to country. These developments resulted in very frequent parity changes between the currencies of countries in the European Community, despite real efforts to establish a zone of comparative monetary stability in Europe (snake, EMS, ECU). The outcome of this monetary turbulence was the generalization of MCAs. Each parity readjustment produced a corresponding wave of MCAs, which often could not be eliminated before a new parity readjustment occurred. In such circumstances, the principle of a unified market with common prices was very much open to question. As the situation has continued, moreover, its long-term implications have taken on increasing importance in that farmers in countries with strong currencies, receiving positive MCAs, enjoy an advantage at the expense of those in weak-currency countries, who are penalized by negative MCAs. The result is a distortion of competition within the Community, which in time may become very significant.

In political terms, however, there is no doubt that the existence of MCAs has given the governments of Member States additional room to manoeuvre. Agreement is always difficult when common prices are being set each year, since each national government assesses its own country's situation differently, and in each case there are numerous political factors to be taken into account. A diversification of common prices was achieved by adjusting reductions in previously accumulated MCAs. This marked the first step toward renationalization of the pricing policy.

Some authors(8) have suggested that this additional measure of flexibility is beneficial, since it enables each country to achieve its national agricultural policy objectives. The main question, of course, is whether the goal of a common agricultural market is to be abandoned. We see here the extent to which monetary instability has affected the viability of the CAP. Many are wondering whether the survival of any common policy does not presuppose the existence of a tendency toward increasingly close economic integration. As there was little evidence of such tendency in the Seventies, the CAP, which was the only common policy, has suffered. Conversely to some extent, it may also be argued that the disputes over agricultural issues have prevented governments within the EEC from co-operating more closely in areas more important for the future of Europe, which might have been less controversial. As we will see, this feeling may have had much to do with the development of the recent crisis.

THE RECENT CRISIS AND THE COMPROMISE OF MARCH 1984

The pressures exerted with regard to the CAP for over ten years have engendered a crisis atmosphere, particularly since the price-setting decisions each year are arrived at late at night at the conclusion of marathon sessions that are given

front-page status in the newspapers. The latest crisis, however, is much more serious. It points up the difficulty of reaching unanimous agreement on a change in policy. Without such agreement, the status quo is maintained, although it is clearly not viable in the long term. Three important factors have combined in the past few years to produce a genuine crisis: the budgetary problem, the enlargement to admit Spain and Portugal, and the reform of the CAP.

Escalation of the crisis

The pressures linked to the budgetary problem and the question of Britain's contribution increased as expenditures rose more rapidly than revenues. It was becoming increasingly clear that the ceiling of 1% of the VAT basis for contributions by Member States would have to be reviewed. This, however, required unanimous agreement; the British indicated clearly that they would accept no increase in revenues without a definite agreement on a reduction of their contribution and reform of the CAP. It was obvious also that the status quo was not viable on a long-term basis, since expenditures associated with the policy were increasing more rapidly than revenues and the limit of 1% of VAT was dangerously close to being reached.

The protracted negotiations for the admission of Spain and Portugal to the European Community were an added complication. While the enlargement appeared manifestly desirable for geopolitical reasons, it heightened the imbroglio over the budget and the CAP. There is no doubt that the entry of two countries with an average standard of living below that of the rest of the Community will cost the Community budget more than it will bring in, regardless of the transitional arrangements that will inevitably be negotiated as a condition of membership. The admission of these two countries, moreover, will increase competition within the Community in the markets for Mediterranean products (wine, fruit, vegetables, olive oil). As we have seen, these commodities already enjoy less effective support than the more easily stored products of northern Europe, a fact that has given rise to pressure to expand the CAP. In political terms, enlargement of the Community toward the south can only be achieved if there is at least a partial correction of the geographic imbalance inherent in the agricultural policy, and this involves additional expenditures. The three issues - the budget, enlargement and reform of the CAP - are thus closely interrelatd. In view of the nature of the stakes involved, it was evident that only a political initiative at the highest level could bring about a resolution of the crisis, which challenged the identity of the Community and perhaps threatened its very survival.

In 1980, at the time of the setting of agricultural prices for the 1980-1981 campaign, the Council of Ministers, under pressure from the British government, gave the Commission a "mandate" to develop proposals for reform or adjustment of the CAP. The Commission presented some reflections on the Common Agricultural Policy in December 1980, and submitted its formal report on the "mandate" in June 1981. It followed up this report with a memorandum entitled "Orientations pour l'Agriculture européenne" (directions for European agriculture) in November 1981. It was not until the Stuttgart summit brought together the Heads of State and government leaders in June 1983, however, that the highest authorities of the Member States actually considered the issue. They declared that a review of the agricultural policy should be undertaken, taking into account a number of factors specified in their Statement and culminating in concrete measures to bring agricultural expenditures under effective control. The wording of the Statement clearly reflected the extent to which the budget was under strain. In 1983, moreover, expenditures from the Guarantee section of the EAGGF, representing interventions in the market, were increasing at a rate of 28% a year, compared with 10% in the two previous years. It was clear at Stuttgart that this time the limit of the revenu ceiling was going to apply. It was on this basis that the Commission put forward proposals to adjust the CAP in July 1983.

The Commission's proposals

The Commission's proposals reaffirmed the special status of the agricultural sector and the objective of support for farm incomes, which since 1973 had risen more slowly than others; they did not call for a major reform of the CAP, nor did they call into question the basic principles of market intervention. As indicated in the official document COM (83) 500, the Commission examined the economic context of each market organization sharing in the expenditures of the Guarantee section of the EAGGF to the extent of more than 2%, and formulated proposals specifically designed to relieve the budgetary constraint. These included drastic measures to control dairy production (quotas and the establishment of a high additional levy beyond the quota, in addition to the co-responsibility levy in effect since 1977). The Commission drew the attention of the Council of Ministers to this sector, in which production growth, which had averaged 2.5% a year from 1973 to 1981, had accelerated in 1982 and 1983 to a rate of 3.5% a year, while consumption of milk and dairy products in the Community had risen by only 0.5% a year during the Seventies and exports of surpluses necessitated levels of assistance "acceptable with difficulty by the taxpayers of the Community". To increase budget revenues and encourage consumption of butter, the Commission proposed that a new tax be imposed on vegetable oils. With respect to other commodities, the proposals were aimed essentially at a strict application of the concept of a guarantee threshold restricting price support to a limited volume of production, beyond which the guarantee would not apply. The threshold for each product would be established in terms of expected domestic consumption and "normal" exports. In addition, if the volume of production exceeded the guarantee threshold, the price support level would be automatically lowered the following year. With regard to grain, the Commission reaffirmed that the application of this concept was based on effective limitation of imports of substitutes used as animal feed (cassava and, in particular, corn by-products, including corn gluten feed).

Observers agree that these proposals can be interpreted as a pragmatic attempt to introduce politically achievable changes aimed at dealing with immediate problems. At the same time, we can share MAHE's view (1984) that a budgetary approach to the problems of the CAP is unlikely to develop a complete and consistent set of principles and rules that will be solidly based economically and will lead to greater economic efficiency in the

long term. We can also agree with the observation of Hassan and Viau that (translation): "These instruments (quotas) could be placed at the service of a policy aimed at rectifying the inequalities and maladjustments engendered by the liberal conception of the CAP, even under a protective umbrella... It is important, however, to have no illusions. Such a policy is at variance with the status quo in terms of inter-state relations within the Community and the Community's relations with outside countries, particularly the United States."(9)

Although they did not represent any departure from the principles underlying the CAP, the proposals were sufficiently different from previous practices that it took the Council of Ministers a further eight months to reach a decision on them, while the pressure of budgetary constraint continued to mount: the year-end closing for 1983 was made possible by the expedient of carrying forward expenditures into 1984. It was clear that, failing a decision, budgetary resources would not be adequate to cover "mandatory" expenditures in 1984.

Toward a political compromise

Because of the interrelationship of the three questions of the budget, the enlargement and reform of the CAP, a decision in principle on the Commission's proposals could only be made at the level of the Council of Europe, that is to say, at the next summit, which took place in Athens in December 1983. This was a failure: the participants could not even agree on the wording of a final statement, after the Heads of State and government leaders had devoted a quarter of their time (an entire half-day) to the milk question without reaching a conclusion. Despite official statements, there was a pronounced sense of crisis after the summit. The decision-making process seemed blocked. In view of their political implications and their interrelationship, the three key issues had in effect been referred to the highest political authority, which obviously could not carry out detailed negotiations on a technical matter as complicated as milk marketing, the importance of which was after all very minor in relation to the major problems confronting Europe.

Although it cannot be confirmed, the feeling that agricultural issues had assumed undue importance in European affairs may have played a significant role in the course of the negotiations, and each party may have been prepared to make concessions to deal with the crisis. Observers close to the negotiations emphasize moreover that the Athens summit was not without value in that it enabled the Member States to gain a better understanding of one another's positions. The summit was later followed by a very intensive program of official meetings and bilateral contacts.(10)

At the Brussels summit in March 1984, the participants again failed to reach an agreement on the British contribution, and this disagreement prevented the resolution of other problems. Solutions were found, however, for a number of other questions, subject to general agreement; these included:

- limitation of increases in budgetary expenditures;
- reduction of dairy production and phasing out of Monetary Compensatory Amounts;
- increase in the Community's financial resources after January 1, 1986;
- acceleration of negotiations with Spain and Portugal so as to bring them into the European Community by January 1, 1986.

At the end of the month, the Council of Ministers of Agriculture adopted measures giving effect to these general agreements and to price support levels consistent with the decisions. As a result, prices expressed in ECUs declined on average for the first time. The reduction in MCAs undoubtedly permitted a moderate increase in nominal prices in several countries for 1984-1985, but this increase was below the general inflation rate. In 1983, moreover, farm incomes had reflected a very significant decline in most member countries. In essence, the reform package adopted was in line with the proposals made by the Commission in July 1983. The tax on vegetable oils was not accepted, however, probably owing to the combined pressure exerted by countries exporting oilseeds to Europe and by European firms in the sector.

It was not until the Fontainebleau summit in June 1984 that the question of Britain's contribution to the Community budget was settled and the earlier agreements on reform of the CAP and the admission of Spain and Portugal were ratified. As we will see below, the agreement was perhaps not as clear and unequivocal as it should have been to provide a definitive resolution of the "crisis". Nevertheless the events of recent years reveal some interesting facets of the decision-making process in the European Community and throw considerable light on the determinants of the Common Agricultural Policy.

Lessons in the determinants of the CAP

The CAP, like other economic policies in democratic countries, represents the provisional and continually challengeable resolution of conflicts of interest through the political process. In the case of the European Community, this process takes on a particular character in that the supreme decision-making authority is made up of representatives of the governments of the Member States. This being the case, decisions are in the final analysis the result of compromise between national positions which have been specifically developed in each country. The mere process of this development of national points of view and the consequences of such an approach to community decision-making in terms of the definition and evolution of the CAP would warrant extensive research in themselves. The history of the recent crisis, however, is a clear indication of the essential weight of certain global economic variables and of the political nature of the decision-making rationale.

As we have seen, budgetary constraint was a determining factor. It was not until all expedients for covering expenditures had been exhausted that there could be any reassessment of the status quo. The incidence of this constraint is a direct result of the shifting balance of supply and demand on the principal markets, which determines on one hand the volumes to be imported and exported, and on the other hand, world price levels. The latter directly affect, with respect to given

European prices, the amounts of levies and refunds, or in other words, the expenditures and revenues of the EAGGF. The average level of farm incomes continues to play an important role, although it is now well known that income disparities in European agriculture are considerable, regardless of the variable used to evaluate them.

The influence of these major economic variables, which may be decisive in the final analysis, is inoperative, however, in the context of simple economic rationality. Mediation through the political process is particularly important. This is borne out by the fact that pressure groups, which represent various categories of economic interests, operate for the most part at the national level. An analysis of the evolution of the CAP must therefore be conducted simultaneously at the Community level and at the level at which national positions are developed.

Outlook for the future

If the foregoing analysis has in fact identified the determinants that have shaped the CAP, it should now be possible to forecast its future development. Attempting to predict the future, however, is always a dangerous exercise, particularly in the areas of economics and politics. At the moment, it appears that the compromise of March 1984 will soon have to be reviewed, since it has not resolved the various problems as conclusively as European officials hoped. On a number of issues, however, which are of particular interest to Canada, it seems unlikely that there will be any turning back; this may at least serve to lessen the degree of uncertainty about the future.

Pending problems

The compromise of March 1984 was conditional upon an agreement on the British contribution which was to resolve the budgetary problem for several years, since a decision had been reached to raise the resources ceiling effective January 1, 1986 to 1.4% of VAT and later to 1.6%. The Fontainebleau agreement on Britain's contribution lent special significance to events occurring in 1985, since that fiscal year would establish the basis of distribution for future years. It is understandable, therefore, that adoption of the 1985 budget is now presenting a problem. The situation has been exacerbated by two additional complications: errors in the 1984 estimates and jurisdictional disputes with respect to the budget.

Expenditures associated with support of the wine market had been seriously underestimated, particularly in Italy, at the time the 1984 budget was under discussion. Regulatory procedures with respect to this market have therefore had to be revised. Discussions are currently at a standstill; the French, in company with most of the other governments and the Commission, are proposing strict limitation of production, and the Italians are refusing.

The jurisdictional disputes relating to the budget involve on one hand the Commission in opposition to the Parliament, and on the other hand, the Ministers of Finance in opposition to the Ministers of Agriculture supported by the Commission. The only real power enjoyed by the Parliament, which was recently elected by universal franchise for the second time, stems from the requirement that it approve the budget. It recently refused to grant the Commission a discharge for the 1982 fiscal year. Faced with extensive renewal on January 1, 1985 and inhibited by Council of Ministers whose decisions have been ambiguous, the Commission is not in a strong position.

The Ministers of Finance, at the urging of the British, have reached agreement on a procedure designed to impose "budgetary discipline" and limit expenditures a priori with respect to the agricultural policy; the open-handed operation of the policy had admittedly already been limited to some extent by the introduction of guarantee thresholds. The French Minister of Agriculture had initially been violently opposed to this principle, but finally gave way to what he termed " collective stupidity". The Commission has also expressed serious reservations as to the feasibility of applying this procedure and the risks it entails.

The Italian Minister for European Affairs has made clear that his government has given "limited and purely political but not legal agreement" to this "ill-considered decision" by the Ten.(11)

These events may not be of great importance in themselves, but they illustrate that disagreements over the budget are still smouldering and that the 1985 fiscal year will be difficult.

In addition, the deadlocked discussions among the Ten with regard to wine are delaying the negotiations in progress with Spain and Portugal. The deadline of January 1, 1986 for their entry to the Community will not be easy to meet. The introduction of milk quotas is encountering serious economic, administrative and political difficulties, but it is still too early to judge the effects of this measure. It has in any event sent a clear signal to producers, who in many areas are wondering about their future. For those who have recently invested in the modernization and expansion of their operations, the economic consequences of the quotas, if they are strictly enforced, could be disastrous. There is accordingly strong pressure on national governments to try to mitigate the effects of this radical change in policy. It is significant that a majority of the Ministers of Agriculture of the Member States have requested that the Commission delay collection of the first super-levy from November 15 to February 15. The administrative problems have mainly to do with the Commission's difficulty in monitoring compliance with production quotas by Member States. In this connection, certain statements attributed to the Italian Minister of Agriculture are disquieting, as is the fact that as of November 16, his government had not yet indicated whether it was choosing the formula of quotas per producer or per dairy.

Despite these uncertainties, there is no doubt that the decision to introduce milk quotas has already served to slow the increase in production. Although the effectiveness of the measures that have been or will be taken may be open to question, it is likely that they will be strengthened rather than curtailed if they prove insufficient.

Uncertainty as to the future of the EEC's international relations in the area of agriculture, with respect to some issues at least, is obviously much greater. The compromise of March 1984

included a mandate to the Commission to negotiate with the United States, in the context of GATT, a limitation on imports of corn gluten feed. According to the general agreement, such a limitation is permissible on condition that compensation in the form of concessions with respect to market access is offered "contracting party" States disadvantaged by the limitation. The United States, though a participant in the contracting process provided under GATT, has clearly indicated that it is not in favour of any such limitation of imports; the American Administration has to some extent suggested that a question of priciple is involved. The differences between the United States and the European Community have been aggravated, moreover, by the recent passage in the U.S. of legislation on trade and tariffs, which threatens imports of wine from the Community.

Relations were already strained as a result of the trade war being waged through subsidies and increasingly liberal credit facilities on the wheat and flour markets. There seems little evidence, thus far, that the Agriculture Committee recently established within GATT in an effort to reduce transatlantic tensions by examining the problems in a multilateral context, will be able to achieve this objective. Indeed, disagreements within the Committee are tending to exacerbate the situation, and the Europeans suspect the Americans of seeking to create divisions among them in order to impose their own point of view. Despite these growing tensions, it is difficult to foresee a major trade war, which could be extremely costly for both sides. It is likely, however, that the skirmishes will continue and that the climate will remain tense.

Some predictions

Three issues are of particular concern to Canada because of the potential conflicts they involve: these are the future production and export of European grain, beef exports and the proposed tax on vegetable oils.

There is little likelihood that a tax on vegetable oils will be introduced in the foreseeable future. The Commission's proposal met with strong opposition, particularly from the Dutch and British governments, not to mention pressure from various economic interests associated with these products. Adoption of such a measure as part of a possible "package" involving an exchange of concessions would entail much more difficulty than would its acceptance in isolation. Since it was not included in the last package, the possibility of its being seriously discussed again in the near future is slight.

The crisis in the European beef market is very serious. It is linked with the general economic stagnation and has been exacerbated by the partial liquidation of dairy herds following the introduction of quotas. Information compiled by the Commission from surveys conducted in the spring of 1984 indicated that production would increase by more than 5% in 1984 and that this increase would continue at least during the first half of 1985. Pressures on national governments and Community authorities to "do something" can therefore be expected to continue. The French government, moreover, has just introduced a series of measures which the Minister of Agriculture himself has admitted are close to infringing the limits authorized by Community regulations.

These economic and political conditions are not conducive to any significant change in the European Community's policy or its position on the world beef market.

With respect to grain, the Community's policy is clear: it is to bring European prices in line with American prices, limit imports of substitutes, and finally, develop exports without suddenly increasing the Community's share of the market. These objectives, which are well adapted to the current situation of European grain production in the world, are likely to guide the Community's actions in this area in the years to come. This being the case, the Community can be expected to impose restrictions on imports of corn gluten feed as it has done with cassava, increase the proportion of feed grain, including wheat, in animal feed, and continue to be very active in the international soft wheat market. On the basis of long tradition and out of a strong desire for a stabilization of world prices, it will probably be willing to participate in international agreements with respect to grain. In light of the awareness in Europe of the need to improve the situation of the developing countries, particularly the poorest, it would undoubtedly be possible politically to increase the volume of grain allocated to international food aid by the European Community. On the other hand, there is unlikely to be a very large voluntary increase in publicly controlled supplies, since the internal political risks would be too great.

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NOTES

(1) For further details, see in particular GERVAIS, JOLIVET and TAVERNIER, 1976.

(2) For further details, see CECIL, 1979 and TRACY, 1982.

(3) For further details, see KIRK, 1979.

(4) For further details, see TANGERMANN, 1982.

(5) For further details, see HEIDHUES, 1979.

(6) It was in the context of these concessions that all quantitative and tariff restrictions were removed from imports of soybeans.

(7) EAGGF - European Agricultural Guidance and Guarantee Fund, a fund to finance the CAP.

(8) See in particular RITSON and TANGERMANN, 1979.

(9) See in particular HASSAN and VIAU.

(10) The presidency of the Council of Ministers devolved upon France for the first half of 1984. Mr. Rocard, the French Minister of Agriculture, seems to have played an important role in establishing this intensive schedule of meetings.

(11) Cf Agra-Europe, No 1327, 16 November 1984.

JAPANESE AGRICULTURE POLICY DEVELOPMENTS

Keith A.J. Hay

It is an honour and pleasure to be here to discuss Japanese agricultural policy and its implications for trade this morning. This is an unusual topic for non-Japanese to discuss, but it is one which actually affects the livelihood of many of Canada's western producers and a growing number of farmers in Ontario, Quebec and even the Maritimes. I want to discuss with you some of the long-term trends and recent events that bear importantly on Canada's opportunities to sell agricultural products to Japan in this decade and the next.

JAPANESE DEMOGRAPHIC AND ECONOMIC GROWTH

Japan has one of the slowest growing populations in the world, certainly among the Asian economies, it has the slowest. Moreover, the populations average age has been rising for more than a decade and there is already a significant aging which has decreased the proportion of children and young people. Rural population is aging: one in four farmers is now over 64 years of age. Between 1980 and 1990, the likely rate of population growth of Japan will be 0.6% per annum. This certainly compares to 1.6% for South Korea, 1.8% for Taiwan and 1.2% for Hong Kong. In the 1990's, growth of population in Japan will further slow to just a 0.5% increase annually: the other East Asian economies are also expected to see some slowdown in demographic increase.

The effect of these changes will be to cause Japan's population to increase from 118 million today, to 124 million in 1990, to a total of 131 million in the year 2000. One of the significant challenges for Japan in the last two decades of this century will be to maintain its economic momentum in the context of a labour scarce, swiftly aging society. These demographic factors are among the fundamentals, along with lack of land and living space together with chronic energy deficiencies, that have already driven the Japanese to reform their industrial economy.

Since 1970, the forces of labour scarcity, space deficiency and energy shortfalls have forced the Japanese to concentrate on processes and end-products that are labour-saving, space-efficient and use little energy. This necessity has pushed Japan to become super-cost conscious in industrial output, thereby turning out consumer goods and machinery that closely matches todays down-sized needs at highly competitive prices. Because of the effect of the demography, geography and resource endowment on the profitability of industry, it is hard to see any of these trends quickly reversing. Indeed, all the signs are that Japanese styling is winning broad global acceptance and its technology simply continues to move into new areas and score more successes in established sectors with every passing year.

Now that the Japanese are at the knowledge frontier in automobiles, television, VCRs, cameras, numerical controlled machines, robots, microcomputers and integrated circuits - can they keep it up? My work on Japan suggests that the West has always under-estimated the vitality of this unusual economy: Japan can keep pushing along on a high growth track, provided that:

(a) The U.S. and Canada manage 2 to 3% annual real growth on average up to 2000; and

(b) There is not a sustained bout of protectionism which chokes off a significant amount of Japan's trade with North America and her Asian neighbours. Japan could survive, - and may have to accept -, further EC protectionism in the next decade and a half.

As part of the pre-conditions for making a forecast, there are several other assumptions that we have made about the Japanese economy and Japan's future strategic role in Asia. Without detailing these, the results are still worth noting. In 1981, Japanese per capita income was U.S. $10 080, just behind Canada in the World Bank tables. Canadians earned on average U.S. $11 400 and Americans $12 080. We have forecast that Japanese per capita income may well rise to $16 460 for 124 million in 1990 and $20 770 for 128 million by 1995. Incidentally, the parallel data forecast for neighbouring Korea, are U.S $4300 (World Bank adjusted) in 1981, moving up to $8700 for 49 million people by 1995.

JAPANESE AGRICULTURAL TRADE POLICY

With the foregoing kinds of changes in prospect in Japan, what is the outlook for Canada's sales of agricultural items to them over the next decade and a half? Will the expected sustained prosperity translate into higher volume requirements of grains, oils and fats, meats, vegetables, fruits and processed foods, or will quantity intake level off and the dietary mix just shift to more up - market items and less cereal, - particularly rice, - dependence. And furthermore, to what extent will Japan's dietary patterns be constrained by government policy through its manipulation of agricultural price support programs and controls on imports, which together serve to set the pattern of relative food prices to which Japanese consumers respond?

Within Japan itself there are very different views concerning what the future of diet and consumption will be, and what it should be. Some of the alliances, especially between farmers and consumers, are surprising. These have combined, at the moment, to produce a very strong set of voices backing the highly interventionist and protectionist viewpoint of the Japanese Ministry of Agriculture, Forestry and Fisheries (MAFF). Whereas the continued move towards tariff and non-tariff barrier liberalization has been proceeding fairly swiftly in the industrial and financial sectors, there appears to be growing public intransigence concerning agriculture.

The basic arguments heard in favour and against retaining the status quo for Japan's agricultural imports are as follows:

(a) National security dictates that no country should allow itself to become dependent on foreign food sources for more than 50% of its calorie requirements. Japan is currently the world's leading importer, by value, [about U.S $17 billion, 1983] of agricultural items. (MAFF)

(b) Japanese diet of 2500 calories per day (versus 3400 approx. in North America, and even 2800 in P.R. China) is healthy: further increases in meat consumption at the expense of fish will lead to a higher incidence of heart disease and cancer. (Japan Consumers Union)

(c) There has never been a redistricting of Japan's voting constituencies, consequently, the farm vote is much more valuable than the city vote on a "one-for-one" basis: loss of rural support could cost the ruling Liberal Democratic Party as many as 200 seats in the Diet, effectively wiping them out as a political party. "To irritate farmers emotionally is to cripple the progress of Japanese democracy". (LPD spokesman)

(d) Japan's livestock industry is only ten years old, - in its current form -, and deserves infant industry protection; besides which milk supplies are a national perogative and must be protected and thereby you are protecting 70% of Japan's beef producing capacity. (Farm Cooperatives)

(e) "Japanese farmers will suffer a devastating blow if Japan adopts further market-opening measures following those announced in April 1984...We are preparing for a hundred years of agricultural trade war with the USA" (ZENCHU spokesmen, anti-liberalization front at the national level based on all Japan's agricultural organizations)

(f) "It is a national loss to embrace in the domestic economy an industry [agriculture] that has lost its competitiveness." (Former chief executive of Ajinomoto "soy sauce" Corporation and Keidanren food policy committee chairman. Forced to resign in Spring 1984, when Ajinomoto, Sony and a supermarket chain were boycotted by farmers due to similar remarks by key corporate executives)

(g) Japanese agriculture receives government subsidies amounting to more than 2000 billion yen annually, - about CAD $11 billion. Income transfers from consumers and taxpayers accounts for between 70 and 80% of total agricultural income in Japan. (Japan Economic Journal)

(h) "Japanese governments agricultural policy is to impose control on farm product imports until Japan's production cost of farm products reach the level of European countries and can be internationally competitive." (MAFF Minister, Shinjiro Yamamura, Spring 1984). At that time, beef cost structure in Japan was index 100, EC about 66, U.S.A. - Canada around 45, and Australia at 30.

These eight quotations convey clearly the cost and concern generated by current Japanese domestic agricultural policy. Trade policy for Japan on food/feed imports is simply a reflection of their requirements to maintain domestic price support programs for rice, meats, certain vegetables and fruits. Given the considerable political clout of Japanese farmers and their skill at enlisting organized consumer groups to support them, the business sector and non-MAFF departments of the Japanese government have found them a difficult lobby to contain. Indeed, since 1980 (and especially after the recent near Parliamentary defeats of the LDP), the rural-consumer protectionist forces seem to have gained policy leverage at the expense of the urban-business liberalization supporters. They argue that affluent Japanese can and should pay for high priced food as a means of maintaining their rural heritage and a countryside still devoted to small-scale (i.e. high quality control) family farming.

ECONOMIC TURBULENCE AND AGRICULTURAL POLICY

Looking back, I believe that observers will view 1984 as a critical year in the evolution of Japan's agricultural trade policy and its closely related domestic agricultural production stance. A constellation of trends and events came together to cause a significant hardening of already entrenched positions. After the oil shock of 1973-74, Japanese consumers reacted with extreme pessimism, - decreased spending, especially on food and pushed up personal saving -, a phenomenon that they only gradually overcame in a period of four years. The same chain of events was triggered by OPEC II in 1979, and some of the food buying retrenchment shock can still be felt.

At the same time, the Japanese economy slowed down seriously. From 1981 to 1983 it managed to average only 3.5% annual growth. For FY 1984 the results are expected to be much better, - 5.4% growth -, driven by surging exports to the U.S.A. and rebounding private sector investment. The weak economic performance since 1981 showed up in Engel coefficients (ratio of food spending to total consumer spending) which fell by 0.5% in FY 1981, 0.6 in FY 1982 and again by 0.4% in FY 1983. Some observers in Japan suggested this was the "peaking out of Japanese gluttony". Meanwhile producer prices at Japan's farm gates in FY 1983 fell by 2.1% overall, with fruit down 12.1%, vegetables 4.2% and livestock down by 2.3%. At the same time Japan's major retailers were recording their worst sales year ever in 1983, with large supermarkets seeing sales totals fall while small supers improved only slightly [0.67% total 1982, 0.44% 1983].

This weak demand for food items occurred while Japan was encountering its fourth year of unexpectedly low rice harvests up to 1983. Government programs to switch farmers out of rice and into wheat, barley, soybeans, fruit and vegetables began to be successful in 1979. But by early 1984, reduced paddy and slashed yields meant rice shortfalls were in sight, causing rice to be imported from Korea: - this greatly upset Japanese farmers whose acreage had so recently been cut back. The crowning horror occurred when U.S. Agricultural Secretary John R. Block offered to sell rice to Japan. This public offer simply confirmed a widely held view among Japanese farmers that the ultimate goal of the U.S. aagricultural trade policy is to sell rice to Japan!

Japan is already the best market for U.S. agricultural products, taking 15% of total U.S. agricultural exports. These, valued at about U.S. $6.4 billion in 1982, accounted for 40% of Japan's farm imports. Australia sells U.S. $1.7 billion for a 10% market share, and Canada is third with 7.5% worth or U.S. $1.2 billion in 1982. Heavy reliance on food imports is a legitimate Japanese concern: they have never forgotten the 1973 soybean

export embargo and they are not comforted by more recent U.S. moves to use foodgrain embargoes against the Soviet Union. These actions worry Japanese that their imports from the U.S. might, under some circumstances, be interdicted. They are very risk-adverse on food supplies, and could not contemplate the U.S. supplying them rice, as well as everything else.

AGRICULTURAL TRADE POLICY NEGOTIATIONS

It was against this background that the U.S. government brought the Japanese to the bargaining table, concerning their import quotas on beef and citrus, in the Spring of 1984. Thus was a long-standing debate brought to a head by agreements made at the Tokyo Round MTN on annual quotas expiring in April 1984. For some it appears a symbolic issue: even if beef were completely liberalized most observers feel that Japanese imports might not rise more than $800 million per year. But it is important to Australia and Canada for several reasons:

(a) Australia is the regional low cost beef supplier and in a truly open market might capture most of the Japanese beef market.

(b) Canada might be able to ship specialized beef to a free Japan market.

(c) Free beef imports would lower beef relative prices and shift consumer tastes away from pork and chicken to some extent. Canada is a premier supplier of pork to Japan.

(d) Japan's requirements for livestock feedgrains would drop drastically, if its livestock industry were submerged by low-cost import beef. This would result in import feed cutbacks affecting corn sales from the U.S., feed wheat from Australia, and barley and other feeds from Canada.

(e) In all this the ultimate winners would be Japanese consumers and probably Australian beef growers, and no one else very much.

Remember also that at the same time the U.S. wants freer access for its citrus products in Japan. Already the effect of this has been to shift Japanese farmers out of oranges, grapefruit and lemons, into apples, cherries and berries, - none of which is much to Canada's export advantage.

The outcome of the beef negotiations in Spring 1984 is instructive. It shows very clearly that U.S. agricultural trade policies with respect to Japan should not be supported willy-nilly by other suppliers. The U.S. pushed open the door for themselves and the Japanese closed it on others. Of the extra 8400 tonnes of beef to be allowed in by Japan from FY 1984, - based on a FY 1983 total of 141 000 tonnes -, 82% of the increase (6900 tonnes) was alotted to American suppliers while the Australians got the remainder.

However, the Australians had been supplying two-thirds of the Japanese beef market in 1983, so the Americans have essentially won a legislated increase in market share. From Japan's standpoint, the beef quota increase is minimal; equal to about 1.5 beef hamburger patties per Japanese per year. Japan's Livestock Industry Promotion Corporation (LIPC), which buys in four-fifths of all imported beef, has no intention of changing domestic beef prices which at retail, range from 4 to 6 times above North American prices.

TRADE BALANCES AND POLICY LEVERAGE

This year Japan will run up a U.S. $44 billion global trade surplus. Meanwhile the U.S.A. will register a U.S. $120 billion current account deficit. Americans are blaming the Japanese for a good portion of this and requiring Japan to buy more imports, especially items that will help out mid-Western farmers in dire straits. This imbalance, which Japan does not have with Canada or Australia, is the lever that the Americans will use in future agricultural trade talks with Japan to secure by any means a bigger market share for their food in Japan. Since the Japanese population is not growing very rapidly and their domestic policy is suppressing certain types of food demand, the U.S., Australia and Canada are essentially competing over a fairly slow growing market. It may be a long shot, but the Australians are already responding, to being virtually shut off from further beef sales, by mounting a campaign to market lamb in Japan. A large Japanese distributor has also teamed with Australian suppliers to import "smoked lamb" which is aimed squarely at the ham market - a sector where Canada has some important market interests.

I believe that we may see similar thrusts and parry's from the Americans in the grain and feedstuffs markets, arm-twisting the Japanese to take more of their products, and consequently less of somebody elses. Our key pork business in Japan, which has earned Canada as much as CAD $200 million quite recently is vulnerable to changing prices of other meats, shifts in supplier competitiveness elsewhere, EC agricultural export dumping by subsidy, and the possibility that our own meat-packing costs could cause longstanding trade diversion, if not adjusted.

These issues were discussed in some detail in an Agriculture Canada working paper by myself and Masako Oashi Lovatt earlier this year.1 To retain Canada's position in Japan's pork market will require active government and industry efforts in 1985.

ON THE BRIGHT SIDE

Not everything is gloomy about the outlook in Japan, my reason for the preceeding discussion is simply to stress the cnallenge that Canada faces in retaining our shares of the Japanese market. In April 1984, the Japanese government announced a series of trade liberalizing moves that could assist Canadian food exporters. Besides promising to lower tariffs on wine on 1 June 1985, Japan will also ease several juices; dried vegetables; corned beef; tomato juice and ketchup and some tobacco imports. NTB's arising from consumer product safety laws; measurement laws; semen and livestock embryos; sanitation; and overseas laboratory testing prior to shipment, have all been relaxed.

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1 K.A.J. Hay and M.O. Lovatt, Freight Rate Adjustment Implications for Canada's Pork Trade With Japan, Agriculture Canada, Marketing and Economics, Working Paper 7/84, Ottawa, March 1984.

This is not the place to run through recent export performance of each of Canada's key food items sold to Japan. In our publication for the Canada-Japan Trade Council in 1983, "Canadian Food for Japan", we looked at each sector quite closely and analysed its prospects. Most of that analysis is still valid, although as I have suggested gaining and holding market share will be tougher. If we could grow more canola we could probably sell more in Japan and elsewhere in East Asia. There are some new intriguing areas opening up in dairy products (yogurts and puddings), alcoholic beverages, processed meats, frozen berries and fresh vegetables, mostly through joint ventures. I would urge those of you with a new or unique product to examine carefully the potential for a joint venture with a well-established Japanese food distributor who specializes in your line. There is still plenty of scope to participate in this very prosperous and wealthy offshore market.

PLENARY SESSION II

AGRICULTURAL PROSPECTS IN DEVELOPING COUNTRIES

T.C. Kerr

This is not an outlook statement in that it does not provide detailed commodity or country prospects. Rather it is a general review of factors, including policy issues, which are important in shaping developing country agriculture and food performance over the next few years. It deals with some of the factors that should be borne in mind when considering Canada's agricultural trade prospects with the developing world and what it might turn out to be in the course of the next five years.

Among the factors discussed is the question of price policy for agriculture for the last year and a half. FAO has been assessing the extent to which price policy matters.

I remember asking the question of Glen Flaten when he visited FAO last year. Unlike many people involved in advising developing countries, he had no hesitation in saying yes.

To start with some basic facts. The population of the developing world is roughly three times that of the industrial countries. By the end of this century, there will be almost four billion, eight hundred million people in the developing world compared to one billion, three hundred and thirty in the industrial economies. Clearly on a numbers basis, the developing world will dominate future agricultural production, trade and consumption trends. A related change which has equally important implications is that population growth is highest in urban centres as rural/urban migration is occurring much faster than when the industrial economies went through the same process. To summarize the population trends one can start with the point that in 1980 developing countries had 75% of the world's population. Since that time they have been and will be the source of all of the net addition to world rural population and they'll contribute 84% of the net addition to world urban population to the year 2000. In numbers that means that nearly 500 million migrants will move from rural to urban areas in the developing world. One billion, one hundred million of the net addition to population in developing countries will reside in urban areas by the year 2000. Needless to say these migrants are not going to grow their own food and the implications of this rapid rate of urbanization start with the question, "Can farmers in the developing world accomplish the production increase implicit in feeding the additional urban population?". Secondly, "Can the countries involved cope with the implied change in the composition of the rural labour force"; it is the younger, better educated people, a majority of them being males, who are moving to cities. That fact has fairly serious consequences for the composition and capacity of the rural labour force in the next decade. Thirdly, people who migrate to cities don't eat the same diet as they did in the country. They shift to convenience foods such as bread, rice and other commodities.

These factors pose a tremendous challenge for agriculture in the developing world. In addition one must consider implications for the marketing, processing and distribution system for food. Coping with the urban population growth together with increases in per capita consumption makes food marketing one of the highest growth-rate industries around. Together with the technology requirements in production these represent a heavy set of demands for investment and management, both of which are in scarce supply in developing countries.

On a population basis there's no question about the future market for food, in particular, in cereals and oilseeds and I must admit my comments today are heavily biased towards these commodities. There are a number of reasons why Canada is not going to make major strides in exporting livestock products to the developing countries. These range from very heavy protection emerging in the middle income, newly industrialized countries and the fact that very tough competition would come from Australia, New Zealand and elsewhere.

Examining cereal production and trade reveals that developing countries don't quite have the same share of production as they have of population. However, they do have 51% of total cereal production forecast for 1984-85. They also take 51% of total imports of all cereals. It is important to examine the composition of their cereal production. Of wheat, they produce 40% of expected 1984 total world production. Comparable figures for other crops are: rice 94%, coarse grains 35%, oilseeds (or oil bearing crops) on an oil content basis, 61%, (on an oil-cake content basis 49%). Reflecting their low per capita incomes their share of meat, milk and egg production are much smaller, 35, 24 and 37% respectively for these commodities.

Cereal imports have grown very rapidly in the developing world. Even in the last 4 years they have increased from about 46-47% of total cereal imports to 51%. One caution in interfacting that growth is that a very high percentage of cereal imports go to 9 countries. In the Far East more than 60% of cereal imports into the region go to the Republic of Korea, Hong Kong and Singapore. Similarly in Latin America more than one-half of total food imports are accounted for by Brazil, Mexico and Venezuela. All of these are relatively high income countries. The African pattern is similar with Algeria, Morocco and Nigeria being the three countries involved.

One interesting note is that the per capita value of food imports in the high-income developing countries increased from a relatively small figure of about $11.00 per capita in 1971-73 to just under $60.00 per capita in 1980-81. That figure is about two-thirds of the per capita level of total food imports in developed countries.

Trends in production, besides absolute size and relative importance in the world, are obviously important in determining future trade patterns. On that score, the developing world, with the exception of Africa, has done pretty well when it comes to cereals. On a per capita basis, all of the developing economies have increased cereal production per capita over the last 15 years by almost 1% per year. That includes the fact that, as a group, the African countries, have declined. Eastern African countries have had per capita

cereal production declining at 2.2% per year, West Africa at 0.8%, and the Middle East/North African countries have been declining at 1.2%. Examining African countries grouped by income levels, the low income countries which have per capita income of less than $410 U.S. (in 1982) showed a decline in cereal production per capita of 2.3% per year over the period 1970-82. This means that the rest of the developing countries have really done quite well approaching the industrial economies which expanded their per capita cereal production by about 1.6% per year over the same period.

The next factor to consider is consumption; what change or trend in the demand for food is expected in these countries. A few figures which are most relevant for Canada's concern with outlook are the projected growth rates of consumption of major commodities, first for the industrial countries and second for the developing ones. This projection is for the period 1980 to 1990-95 and gives an idea of what to expect. For wheat, the growth rate anticipated in consumption in the industrial countries is 1.7% per annum; for developing countries the figure is 4.3%. Rice, 0.7% for the industrial countries, 2.9% for the developing countries. Coarse grains, 0.5% for the industrial, 3.3% for the developing countries. I can go on through the list but I think the other relevant growth rates are soybeans (oil-equivalent basis), 2.3% for the industrial countries, 5.9% for the developing.

In terms in demand the developing country markets are large and growing and the question is how and to what extent will it be met? A final set of factors which have a bearing on this are the global macro-economic, trade and debt issues. Briefly, the two recessions that we've had since 1970 have had quite different effects on the developing world. In 1974-75 a short recession, the developing countries were able to maintain growth and consumption by borrowing abroad. That's not been the case in 1980-83 and I'm sure the reasons are well known to many of you. They have been well popularized in terms of "the debt crisis". Up to 1981 most of the developing countries were able to maintain GDP growth in the face of declining exports caused by the industrial countries recession and they were borrowing abroad. However, the financial institutions became increasingly nervous, funds dried up and, as a result, GDP growth rates in the developing world has fallen from around 2.5% in 1980 to 2.4 (1981), 1.9 (1982) and then 1% in 1983. Currently they are not recovering as quickly as they normally do when growth in the industrial countries pick up. The reason is very simple, the debt that they bear now is sufficiently high that few financial institutions are prepared to believe that the developing world can or will pay off its debt based on income. What many have done up to now has been rolling-over debt and obtaining additional loans to service existing debt. That option is being closed off. The reasons why are not hard to see. If you look at external debt as a ratio to GNP in the developing world, in 1970 it was 13%, in 1978 it was a little under 20% of GNP, and in 1983 it was almost 27%. Compared to export earnings, debt fluctuated throughout the seventies, but it never went above the annual level of exports, and in most years it was around 75-80% of annual exports; by 1983 it was up to 120%! The debt service ratio has increased even more because of the increase in real interest rates. Many developing countries took commercial credit on floating rate terms and when real interest rates rose some particularly affected Latin Amererican countries were particularly adversely affected, Brazil, Mexico and Argentina being among those most troubled with debt rescheduling. What is not as well known is that African countries have had a greater incidence of debt rescheduling arranged by the International Monetary Fund (IMF) than have the large developing countries which have tended to make the headlines. While I could discuss these background factors in much greater depth I will close by summarizing the World Bank's most recent view of what may happen. The Bank has examined what may happen to the developing countries depending on wether the industrial world remains at the relatively sluggish rate of economic growth that it showed in latter part of the 70's. This is one of the factors in world development that clearly has had a major impact. Growth rates in the developed economies have slowly but surely dropped since 1960. The reasons why are numerous and if that performance in the industrial countries is maintained in the next 5-10 years, prospects for the developing world are not good. In fact in many real income per capita would decline.

On the other hand, if the industrial world expanded its GNP by around 4% per year, not as good as performance during 60's up to 1973, but better than they did in the latter 70's, then the developing world would be much better off. Most importantly from the stand point of trade outlook, growth in their imports would be over 7% per year, rather than about 5% and obviously a fairly substantial part of that growth would be in the form of food imports.

I would like to digress and focus on Africa for two minutes. Africa has been the focus of much attention as it has been the core development problem for the last decade. In 1983, GDP per capita was estimated to be 4% less than it was in 1970, prompting a comment that until economists develop a theory of economic decay they will not understand what is happening in Africa. Growth in food production has been so sluggish that food imports now provide about 20% of cereal requirements and the number of under-nourished (by one measure) has gone up from about 80 million in 1972-74 to approximately 100 million. There is a large amount of idle industrial capacity due partly to bad investment decisions and partly to over-valued exchange rates which make profitable efforts a near impossibility. Drought has confounded those factors for 24 countries and, because of the rural-urban migration mentioned earlier, there's an increasing trend in food consumption towards wheat and rice commodities for which much of Africa has little capacity to produce.

These and other factors have been examined in FAO's price study. Without going into detail, since I am running out of time, I would comment that this study supports a position which has been a growing concern of more and more people, that developing countries have not provided price incentives adequate to obtain the agricultural growth necessary to meet food demand over the next 10-15 years. When I say developing countries I really mean to emphasize Africa. When one examines the price performance of Asian and Latin

American countries one is struck by the fact that they have responded in general to scarcity on markets and have increased farm prices. In contrast, many African countries give the impression that the high prices of cereals in 1973-75 were a mirage, and producer prices remained relatively static. Surprisingly, food prices in Africa increased about as much as those in other regions in the developing world, (about 10% over the period from the late 60's to the beginning of the 80's). This suggests a high and increasing cost food marketing, processing and distribution system.

The same conclusions are apparent in the relationship between domestic cereal prices and international prices, suggesting that many of the countries with the worst performance in agricultural production have failed to give their farmers reasonable price incentives; often they have had very inefficient marketing systems and, in the case of African countries, they have tended to spend less public money in agriculture in comparison with other sectors. I emphasize those points because some of them are having to change now. They can't borrow, they can't finance consumption by international borrowing so they've really got two choices: they either cut back on public expenditure and total demand in order to get their balance of payments into order (which makes it difficult to import food) or they must achieve structural adjustment within their economies and undertake policy shifts to encourage greater production of exports and of commodities which substitute for imports. In the case of Africa, that means expanding or increasing incentives to food production and reducing the taxation currently levied on agricultural export crops. Both of these actions are difficult to do when there is a fairly militant urban population, as some countries have found out when they tried to increase food prices substantially.

The way ahead is difficult and I will try to summarize what I think the implications are for Canada from an outlook stand point for agricultural trade (basically cereals). To start with the points on which I'm least uncertain about. First, it's clear that all of the developing countries are going to have to face up to a much tougher international financial market because of the debt situation of the developing world and the behaviour of both commercial sources of capital and the multi-lateral and bi-lateral aid agencies. This will require closer assessment of the viability of export and import substituting possibilities in investment and what will happen, to a greater or lesser extent, (and has started happening now) is that investment will tend to move in the direction of improving balance of payments and food production will get more priority in the countries where it's been a problem, but just at what rate, it's very difficult to say. I would argue that the nature of the increase in the demand for food in Africa is so high, if you take population growth that's in excess of 3% and you add urbanization on top where people are moving away from consuming cassava, sorghum and milet to wheat and rice it implies a growth in consumption for these commodities which is very high, so high that African production cannot meet it. They can produce a mix of food which would be adequate to meet most of their nutrition needs, but they can't produce the wheat or the rice and there will be an increase in imports of at least those two commodities into Africa. Whether this occurs as aid or commercial imports depends heavily on whether or not the industrial countries grow rapidly enough in the next five years and avoid shutting doors to trade expansion. Without strong economic growth much will be required as aid. As exemplified by Mali food aid can provide an opportunity to restructure policies by allowing a country a breathing space between increasing producer prices and consumer food price increases. I think that South East Asia will show a substantial growth in food trade. It is one of the most dynamic growth areas in the world and I don't see any sign of it slowing down in the next 5 years. Markets in these countries including their factor markets (labour and capital) are working better than anywhere else, and they will not hesitate to import cereals if it is to their benefit. Another point to bear in mind is that some Asian countries which have done extremely well in terms of growth in food production are increasingly facing very expensive rehabilitation of irrigation systems. If Latin American countries in general provide appropriate policy support for agriculture they are not likely to provide for significant growth for food imports. They've got the capacity and the land to meet their own needs.

One final comment is that the projected growth in food demand and the associated structural and technological changes in the food processing and marketing systems in developing countries poses a different but very substantial opportunity for assistance and commerce on the part of Canada's agri-business sector.

AGRICULTURAL PROSPECTS IN CENTRALLY PLANNED ECONOMIES

Philip M. Raup

AN OVERVIEW OF THE CURRENT SITUATION

The contrasts among centrally planned economies are at least as great as those that distinguish countries loosely classified as capitalist or market-oriented in their economic structure. If we omit the smaller centrally planned regions - Cuba, North Vietnam, North Korea, South Yemen - we can identify three distinctly different examples of central planning in agriculture: the USSR, Eastern Europe and China

The agricultural prospects in these three areas are sharply divergent. The USSR has not had a good grain harvest since 1978/79, and in two years, 1981/82 and 1984/85, the harvest was exceptionally disappointing. The annual average production of wheat and coarse grains for the last four years - 1981/82-1984/85, has been 166.5 million metric tonnes or 26% below the record output of 226.2 m.m.t. in 1978/79. Net imports as a result have averaged 38.75 m.m.t. over the past four years, or 18.8% of total utilization. If wastage and seed uses are deducted from total domestic availability, the import of 49 million tonnes of wheat and coarse grains by the USSR in 1984/85 will amount to 28.3% of total grain used for food and animal feeds. (These and subsequent production and trade estimates are from U.S. Department of Agriculture, FAS, Foreign Agriculture Circular, Grains, FG-14-84, November, 1984).

The position of Eastern Europe is less threatening to domestic utilization, due primarily to the fact that the harvests of the past three years have been the three largest recorded. The consequential net imports in 1982/83 through 1984/85 averaged 3.2 m.m.t., in contrast to average net imports of 12.6 m.m.t. in the three years, 1978/79 through 1980/81. The prospects for increases in net imports from current low levels are not bright, due primarily to payment difficulties. Grain feed supplies are tight, and potential import demand is strong, but there seems little likelihood that the centrally planned economies of Eastern European will be able to afford to return to the high grain import levels of the 1978-81 period in the foreseeable future.

The Chinese position is one of sharp contrast. Production of wheat and coarse grains in 1984/85 was 180 m.m.t., a record high, and 38% above the average output of 130.2 m.m.t. in 1977/78 through 1979/80. While China in 1984/85 is expected to import 10.0 m.m.t. of wheat, she will actually be an exporter of just under one million tons of feed grains. One of the most noteworthy developments of the past year in the world grain trade was the arrangement whereby Japanese trade contacts will be used promote the export of Chinese feed grains (Reuter's dispatch of October 19, 1984 from Tokyo).

To underline the rapidity of major changes in the world of agricultural trade, I ask you to imagine the disbelief with which I would have been greeted if I had predicted just 5 years ago that China would be an export competitor in the world market for feed grains in 1984.

A SUMMARY OF SOME KEY FEATURES THAT WILL AFFECT FUTURE PROSPECTS

USSR

The Soviet Union is slowly acquiring the industrial base needed to supply agriculture with inputs that are substitutes for both land and labor. As a result, the potential for expanded use of industrial-type agricultural inputs is great, and growing.

The developing chemical industry can reckon with abundant feedstocks, especially of natural gas for nitrogenous fertilizer.

Off-the-shelf agricultural technology available in western Europe and North America is almost directly transferable to the USSR. This is especially relevant to materials handling and storage equipment, animal feeding, and plant and animal disease control.

The potential for greater efficiency in the storage, transport, and use of grains is very great. This topic will be explored in more detail in a subsequent section of the paper.

The major limitations to further agricultural advances are those imposed by the structural and managerial characteristics of Soviet agriculture. These will be difficult to remedy, in political terms, but could be removed at low cost in terms of the capital and resources required for change.

Agricultural labor shortages are critical, outside the Central Asiatic Republics, and will grow worse. It has been estimated that the normal intake of Soviet military forces of approximately two million per year would require almost the entire able-bodied male population reaching draft-age in the mid-1980's. Farm to city migration and low birth rates make the potential farm labor supply problem especially acute in the Baltic republic, the RSFSR, the Ukraine, and Belorussia (Feshbach, 1982, A, p. 353). This will provide further stimulus to the substitution of capital for labor in agriculture. Soviet demographers have deplored this "deformation" of the rural age structure, and Brezhnev explicitly referred to it in his speech explaining why the May 1982 plenum on the food program was considered important (Feshbach, 1982B, p. 13).

Looking to a more distant future, a possibility of considerable importance to Canada concerns Soviet efforts to develop their forest resources. This is currently in its infancy, but the potential is enormous. It has been estimated that one-half of the annual growth of timber in all temperate forests in the world (940 million cubic meters) occurs in the forests of the Soviet Union (Petrov, 1971). Transport is the limiting factor, but completion of the Baikal-Amur Mainline railroad in the Far East and road construction in connection with the development of mineral and petroleum resources in Siberia are developments that will have the secondary effect of opening up formerly inaccessible forested regions. The Soviet Union as

the leading forest products exporter is a long-term possibility. It is already the world's second largest exporter of softwood lumber (USDC, 1984, p. 129).

Centrally Planned Countries of Eastern Europe

The region as a whole has a considerable potential for improved agricultural output, especially in Poland, Yugoslavia, and Romania. Over half of total mineral fertilizer production in Romania is exported, for example, although the country has one of the lowest application rates in Eastern Europe USDA, 1984A, p. 10). The private sector is dominant in Poland and Yugoslavia, accounting for 81 and 67% of agricultural output in the two countries. Inadequate supply of inputs to the private sector has inhibited the achievement of integration of the two sectors in Poland and Yugoslavia on the scale that has been realized in Hungary. The potential for further increases in total agricultural production is relatively high.

Financial constraints are severe, especially Poland and Yugoslavia. These two countries owe over 60% of the net East European hard currency debt, and had accounted for just under half of total East European grain imports in the peak import year of 1980. A shortage of hard currency will probably retard any East European growth in grain imports throughout the 1980's.

The East European industrial base is well established, with a growing capacity to supply agriculture with industrial-type inputs. The rates of consumption of mineral fertilizer per hectare of agricultural land in Czechoslovakia and East Germany are among the highest in all of Europe, and all East European countries except Poland and Yugoslavia are net exporters of nitrogen fertilizers (Jacobs, 1982, p. 42, and USDA, 1984, A, p. 10).

Livestock (including poultry) products are a high fraction of total agricultural output--the highest among the three centrally-planned areas here being considered. The potential for effective use of bio-technology in animal production in Eastern Europe is large, and many of the skills required are well-represented in the region.

The demographic situation is almost unique. Excluding Poland, the five remaining countries of Eastern Europe have one of the lowest rates of natural increase in population in the world. Population growth in these five countries will contribute only about 6% to any increase in demand for agricultural products to the year 2000 (Population Reference Bureau, 1984). Any growth in grain consumption will depend almost entirely on grain usage in animal production.

China

An industrial structure that could supply inputs to agriculture in China is in its infancy. The primary contribution that could be made in this way is through improved transport. Use rates of natural fertilizers are already high, and can be expected to decline. Sales of commercial fertilizer increased 67% between 1978 and 1982 (Aubert, 1984, p. 13). A major unknown in appraising future trends in Chinese agricultural output concerns the rate at which production of mineral fertilizers can be expanded. Given the existing high rate in the use of labor to substitute for land and capital, the potential for the development of non-land, industrial-type inputs must be regarded as one of the highest in the world.

Increases in grain production from 1978 to 1982 came entirely from increases in yields, since the reported harvested area fell by 6%. While the data on harvested area must be regarded with some reservations, the fact remains that Chinese agriculture since 1978 has been remarkably responsive to yield-increasing technology (Aubert, 1984, p. 13). Stability in output has also been exceptional, leading to a ranking of China among the five countries of the world with the lowest level of fluctuation in grain production (Sievers and Weber, 1984, p. 10). A major reason lies in the fact that 45% of Chinese cropland is irrigated, and the multiple cropping index is 1.46, i.e. just under one-half of the cropland produces two crops per year.

Unlike Eastern Europe and western regions of the Soviet Union, China has no history of a widespread dairy industry that could supply frames for expanded beef output. As a result, the demand for meat will be met primarily through pigs and poultry. These are grain-extensive animals, and consequent pressures on feedgrain supply can be expected to increase.

The data that exist suggest that the income elasticity of demand for wheat in China is high. The practice of recent years of exporting rice and importing wheat, although dictated principally by deficient north-south transport, can be expected to continue. China in 1984 was a wheat importer and a feedgrain exporter. Although most experts attribute this to inadequate internal transport, the fact remains that there is a considerable potential for expanded feedgrain production. Admitting this, the long-run prospect is for expanded Chinese feedgrains imports.

Cotton production is a key component of Chinese agriculture, and recent output increases have made China self-sufficient. This has released foreign exchange for grain imports and in this way has played a role in determining the composition and the magnitude of the Chinese agricultural import mix.

The major unknown in appraising future prospects for Chinese agriculture concerns the durability of the reforms introduced after 1977. The existing tenure structure can be characterized as a composite of several variations of tenancy. It must be regarded as transitional. Its further evolution will be determined by the political transformation that will be triggered by the death or incapacity of Deng Xiaoping,who is now in his eighties. There seems to be general agreement that the agricultural reforms have progressed too far to be reversed. The danger for the remainder of the 1980's is that they may fall victim to a reaction from middle-level functionaries of the old regime, who see power and status eroding. The task now facing Chinese agriculture is to consolidate the impressive gains that have been achieved in the past six years.

SOME QUESTIONS RAISED BY THE RECENT EXPANSION IN WORLD TRADE IN GRAINS

For many of the countries now importing grain, imports enable them to postpone a confrontation with the need to correct defects in their domestic economies. This is especially the case with the centrally planned economies. Grain imports have permitted the continuation of policies driven by political ideologies that are unsuited to agricultural development.

For some grain exporting countries, exports have also permitted them to postpone recognition of errors in their domestic policies affecting agriculture. This is especially visible in the European Economic Community, but can be detected in other grain exporters as well. Canadian exports postponed admission of the irrational nature of the Crows Nest Pass freight rate structure for western grain in Canada. Argentine grain exports provided an opportunity for their political leaders to levy a form of tax on agriculture to support urban and non-farm development. Foreign exchange earnings from U.S. grain exports have masked the rapid loss of competitiveness of the U.S. industrial economy in world markets.

In a framework that goes beyond the immediate interests of individual grain importing or exporting countries, we need to ask: Is it valid to assume that expanded world trade in grains is always desirable? Is it possible that world trade in grains is not an unlimited good?

A CLOSER LOOK AT THE PROSPECT FOR CONTINUING GRAIN IMPORTS BY THE USSR

In appraising agricultural prospects in centrally planned economies that affect agricultural trade, the dominant factor will be the course of events in the Soviet Union. Soviet imports in 1984/85 will be just under one-fourth of total world trade in wheat and coarse grains. What are the prospects that grain imports on this scale will continue?

To answer this question, we must begin by recognizing that, in a good year, approximately half of Soviet domestic grain supply comes from lands that lie either at the temperature or rainfall margins of agricultural use. Extreme climatic variability is a fact of life in the USSR, and will remain so. It will be rational for Soviet leaders to rely on world markets in years of short grain crops. This alone will introduce substantial variability into Soviet grain import demand. The more interesting source of variability, however, is rooted in production and utilization characteristics that are a result of the political and managerial climate of the Soviet economy. We can note the following features.

Production

Befitting its vast extent, there has been a long-standing pre-occupation with the land base in Soviet agricultural planning. Historically, the most noteworthy contributions of agricultural research in pre-revolutionary Russia were in soil science. Under Soviet leadership, this momentum was reflected in the Virgin Lands campaign of the 1950's, and in the decision to make massive investments in the Non-Black Earth soil regions in the 1970's. It reappeared in the decisions of the October 1984 plenum on agriculture to stress drainage and irrigation. In confronting its agricultural problems, the Soviet Union to date has placed primary reliance on what can be regarded as engineering solutions.

There has been a parallel preoccupation with grain supplies, resulting in a relative neglect of forage resources. The Soviet Union lies at latitudes and in climatic zones that dictate major reliance on grasses and on crops that will produce forage but not ripe grain. Socialist agriculture has not provided a hospitable structure for the effective utilization of crops that must be converted into food for human consumption at the site where they are grown. Forages will not bear the cost of transport beyond short distances, and are not storable in concentrated warehousing centers. Grain will, and is. A consequent stress on these crops that could guarantee immediately available food reserves for urban and industrial centers has been a handicap in accomplishing the shift to higher levels of consumption of animal products. Large-scale, concentrated feedlots demand a steady supply of feedstuffs, and imported grain has been the most direct means to meet this requirement. The Soviet Union has recognized this problem, and more stress has been placed on forage production in recent years, with some success. The fact remains that structural characteristics of Soviet agriculture dictate an unnecessarily heavy dependence on grain in satisfying consumer demand for meat.

The preoccupation with the land base in achieving agricultural output increases has been accompanied by a relative neglect of yield-increasing technology that depends on industrial-type inputs. Until well into the 1960's fertilizer use was primarily restricted to the "industrial" crops, especially cotton, and sugar beets. Usage on grain crops has gradually increased, and in 1980 Soviet reports indicated some use of fertilizer on 57% of the grain area. Application rates vary tremendously, and are especially low in the "Virgin Lands" area (Auburn and Young, 1982, p. 150). Industrial contributions to the agricultural infrastructure have also been neglected, and especially in road transport, refrigeration, and storage. In general, meat and poultry production has been located with reference to consumption centers, not grain surplus producing areas. The grain can be transported over long distances, the meat cannot. This has reinforced the tendency to rely on grain imports to meet animal feed requirements in the more urbanized and industrialized regions.

Utilization

The most remarkable feature of a Soviet grain economy that depends heavily on hard-currency imports is the persistence of high rates of wastage and dockage. For the ten years from 1973/74 through 1982/83 waste and dockage averaged 24.2 million tonnes annually, or slightly more than average annual grain imports of 23.3 million tonnes. In five of the ten years waste exceeded 28 million tonnes (USDA, 1984, C). The causes are endemic in the agricultural structure, involving storage, transport, price policy, and the method of paying harvest labor. Since procurement prices are fixed, there is no reward at the farm level for constructing storage in order to hold grain at harvest-time in hope of a higher price later in the season. Defective roads throw the transport burden on an over-stressed rail system, and

pricing policy based on tons of grain delivered does not include adequate penalties for low quality grains. Harvest labor is paid on the basis of "bunker-weight" of grain as delivered from the combine, creating a strong incentive to operate the harvester in a manner that introduces weed-seed, badly-threshed grain, or grain with high moisture content, to increase weight. Harvest estimates are in "bunker weight" and much of the wastage is a reflection of the difference between the weight of grain as it leaves the field and the ultimate dry weight of cleaned and storable grain. A reform of pricing policies at the farm level could have a dramatic effect on waste reduction.

Seeding rates are approximately double those currently achieved in comparable climatic zones of Canada. Brooks has estimated that USSR seeding rates for small grains average 200 kilograms per hectare or roughly 180 pounds per acre (Johnson and Brooks, 1983, p. 161). For wheat, this is equivalent to three bushels per acre. Canadian research has determined that highest yields have been achieved with seeding rates of 90 to 140 kg/hectare or roughly half the Soviet rate, with lower rates (down to 40 kg/hectare) proving best in rainfall-deficient areas (Guitard, Newman and Hoyt, 1961; Pelton, 1969, and Baker, 1982). A part of the explanation for unusually high seeding rates in the USSR is weed control. A dense plant population is a partial substitute for shortages of weed-controlling chemicals. Another part of the explanation is that high seeding rates increase the quantity of straw even though they may achieve only marginal increases in grain yields. Since the grain goes to the state while straw stays on the farm and is an important feedstuff, managers have an incentive to strive for maximum straw yields (Raup, 1984). There is also a strong probability that seed quality does not measure up to established Soviet norms. The magnitude of the savings that could be achieved by lower seeding rates is suggested by the fact that annual seed requirements have averaged from 27 to 29 million tonnes during the past decade. If the Soviet Union could cut seeding rates in half it would be equivalent to cutting imports in half. In five of the ten years from 1973/74 to 1983/82 seed usage required 15% or more of total grain output (USDA, 1984, C). Seed requirements for wheat and barley in comparable climatic zones of western Europe and North America currently are being met with less than 5% of an annual crop.

Since 1971 the big increases in Soviet grain imports have been dictated by an increase in grain feeding of livestock and poultry. Feed use of wheat and coarse grain averaged 100 million tonnes annually in the four years 1972/73 through 1975/76, and 120 million tonnes from 1981/82 through 1984/85. After deducting seed use and waste, feed use of grain since 1980 has been the equivalent of 90% or more of total domestic availability (USDA, 1984, C). Efficiency in feed use is low, even by East European standards. A major reason is a preoccupation with numbers of animals at the expense of quality. Per tonne of beef produced in 1982, the Soviet Union held 17.5 head of cattle in inventory. In comparison, per tonne of beef output, Canada in 1982 held 11.0 head, the U.S. 9.1, the Federal Republic of Germany 10.1, and Hungary 12.5. Per tonne of pork produced in 1982, the Soviet Union had 14.4 head of pigs in inventory, Canada 11.0, the U.S. 9.1, the Federal Republic of Germany 8.4, and Hungary 12.5. Per tonne of pork produced in 1982, the Soviet Union had 14.4 head of pigs in inventory, Canada 11.0, the U.S. 9.1, the Federal Republic of Germany 8.4, and Hungary 9.1. On average in the 1980's, the Soviet Union has had to maintain approximately 50% more animals per tonne of red meat produced than has been required in the more efficient producing countries of North America and Western Europe, or than in Hungary (Raup, 1984). Too much of the feed used in the USSR has been required to maintain livestock numbers, at the expense of gains in weight. This creates an enormous potential for a reduction in grain import requirements through greater efficiency in animal feeding. Gray has estimated that the USSR in the late 1970's was on average using twice as much feed to produce a tonne of pork, as was required by Western European producers (Gray, 1982, p. 101).

APPRAISING THE POSSIBILITY OF FUNDAMENTAL CHANGES IN SOVIET AGRICULTURAL POLICY

Among the most interesting Soviet experiments at reform in the organization and management of agriculture are the attempts to create improved incentives through "contract brigades". The contract brigades or autonomous links create conditions for farm workers that are similar to cash leases. Risk is shifted to the cultivator.

A parallel effort has been made to improve production on household plots. This involves contracts with private plot holders using animals, seeds, fertilizers or feeds supplied by the socialized sector. It is significant to note that these contracts are similar to share-cropping contracts that have had a long history in Europe and North America. A part of the risk is shared between the private plot holder and the collective or state farm.

The debate underlying these attempts to improve production incentives through alternative land tenure structures involves:

a) Decision sharing
b) Risk sharing
c) Profit sharing

The fact that these experiments with various forward production contracts have been given greater emphasis in the past few years indicates the ferment underway in USSR agricultural policy.

Transport remains a critical weakness in Soviet agriculture. This is combined with defects in local government structure that have been most calamitous in their effect on road building. No local unit of government has fund-raising (taxing) capacity to finance the construction of local roads. As a result, the Soviet farmer is a captive of the railroads and the state grain procurement system.

There is a striking parallel between Soviet problems in agricultural pricing, input supply and output handling and the farm problem in the U.S. and Canada at the end of the 19th century, with railroads dominating transport and marketing in monopolistic hands. Current Soviet farm managers have attitudes toward the government, and "Moscow", that would have been wholly understandable to farmers in Kansas, the Dakotas, or Montana in the 1880-1910 period, or to Canadian farmers in the Prairie Provinces.

The lessons of history in centrally planned economies in the past thirty years undermine the significance of agriculture as the seedbed of economic policy changes. All of the pronounced shifts in economic policy that have occurred to date in centrally planned economies began with the food and agricultural sectors. This is illustrated by the dramatic changes in pricing, production, and structural policies that occurred in Poland in 1953, 1970, and 1980; in Hungary in the 1970's; and in China after 1978.

It seems reasonable to presume that this pattern is likely to be repeated in the USSR. In introducing the food program on May 24, 1982, Brezhnev stressed in his opening statement "the need to reduce food imports from the capitalist countries". (CDSP, June 23, 1982, p. 6). As a policy goal, this must rank second only to the maintenance of military strength in Soviet thinking. The disappointing harvest of 1984 and record imports of just under 50 million tonnes of grain in 1984/85 must increase the urgency of this task.

The USSR has suffered a sequence of poor harvests. Weather is not the only explanation, but it has unquestionably played an important role. The USSR is due for a cyclical improvement in weather. This potential may strengthen the willingness of political leaders to risk some structural changes that, with luck, could coincide with an improvement in the climatic factor.

The prospects for change in Soviet agricultural policy are relatively more promising than at any time in the post-Khrushchev era. There must be growing recognition in the USSR that incremental reform is unlikely to be effective. It has been tried before. If change does come, this paper has attempted to document the potential in the Soviet Union for a dramatic reduction in its dependence on imported grain.

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INTERNATIONAL FINANCIAL DEVELOPMENTS

Edward L. Mercaldo

It is an honour to be with you at this most important conference to discuss and review one of the key sectors of the Canadian economy.

These last few years, without doubt, have been difficult ones for Canadian agriculture. I do feel, however, that better times could lie ahead for agricultural exports. Indeed, just as Canadian agriculture experienced a downturn during the world recession of 1980-82, so I would expect it to share in a steady, though moderate recovery as the world's economies strengthen in the years ahead.

Reaching the point where recovery will be fully enjoyed by agricultural producers will be a challenging time and the way is not clear yet. Nevertheless, there are reasonable grounds for optimism in the longer term.

Today I want to discuss international financial developments in the recent past up to the present -- and suggest how these changes in the system have and will continue to affect prospects for Canadian agriculture.

Let me begin by reviewing the world financial background.

During the 1980's the global economy went into a tailspin of a kind we have not seen in the post-war years -- a tailspin that hurt Canadian farmers as it did producers of primary goods around the world.

Let's look back for a moment to the downturn of the early 1980's when world trade was hit so hard.

Major governments reacted to successive oil crises and to subsequent inflation with monetary restraints that drove interest rates up and thrust the world into recession. World trade was hard hit and slumped sharply. After averaging 7% growth from the mid-60's to the mid-70's, growth in trade fell to 2% in 1980, 1% in 1981 and then it actually declined by 2% in 1982.

The combination of high interest rates and reduced trade struck the developing nations particularly heavily.

Commodity prices fell through the floor. Non-oil primary commodity price levels fell by 14% in 1981 and another 12% the following year. Agricultural prices fell 17% in 1981 and 12% in 1982.

World wheat prices also sharply declined because production exceeded consumption in the crop years 1981-82 and 1982-83. Prices fell by 18% in 1982-83 from their 1980-81 high.

The combination of declining volumes of trade and sharply lower prices meant a disastrous fall off in foreign exchange receipts for those countries that were most dependent on commodities for their livelihood -- the developing countries. It also affected certain industrial countries like Canada, where key primary commodity sectors sell their products world-wide.

When skyrocketing interest rates were added to the other problems, the results were particularly devastating to those heavily indebted countries dependent on primary products for their income.

The non-oil developing countries faced interest costs of some $55 billion in 1983. That's 12% of the total value of the exports of non-oil developing countries -- but for the heavily indebted countries, Mexico, faced interest costs of 35% of its exports, Brazil, faced interest costs of 39% and Argentina's interest expenses were a monumental 67% of its export receipts.

Falling prices and escalating interest bills created enormous international payments deficits for the developing world. Their external financing requirements leaped by two thirds from 1979 to 1983. This paved the way for the debt crisis.

Meanwhile the recession in the industrial world, the consequent decline in corporate profits, and the rise of unemployment slowed the growth of deposits in the large banks -- the ones most concerned with the international lending markets. The banks became increasingly concerned about the size and risk that went with their international portfolios just as the demand for credit from developing countries was growing.

In short, we had a time-bomb building. The growth of funds available for international lending declined, just as demand was accelerating.

When Mexico announced in August, 1982 that it could no longer service its external debt commitments, the crisis became front page news and apparent to the public.

The system did not unravel because the international private financial community, the central banks and international agencies, joined together to meet the crisis.

The banks and governments and multilateral institutions were walking a tightrope. They recognized that it was necessary to reduce the concentration of bank credit to certain countries, but it was also necessary to extend new credit because there is a limit to the cutbacks that can be sustained by borrowers without adversely affecting their economic, social and political stability.

They had to deal with the crisis without bringing on a major breakdown of the international credit system or creating conditions that could lead to major social disruption or revolution in the countries affected.

That these objectives have, by and large, been met is a tremendous achievement.

But the debt crisis exacerbated the problems created by the recession and hurt international trade.

The balance of payment constraints, which the external liquidity crisis demanded, led debtor countries to introduce repressive adjustment policies aimed at sharply contracting aggregate demand. This had the effect of compounding the slowdown in the world economy.

The consequent decline in demand severely reduced imports. Even when the debtor country was not itself a buyer of Canadian agricultural products, generally reduced purchases hurt those who were. The payment crisis drove some countries to seek barter trade - paying for imports with exports - not cash or credit. Cash markets were shrinking faster than markets in general although in many cases trade finance lines were available.

The debt crisis further led to massive devaluations of currencies in order to support export efforts as well as to encourage domestic production instead of imports. This had a direct, negative, impact on world trade.

Lastly, the debt crisis triggered trade barriers against imports. Indeed, the demands for protection present one of the major challenges facing Canadian agricultural producers. This problem arises again and again in different contexts.

Since early 1983, the world's economies have emerged from the depths of recession and although we would like to see a stronger growth pattern, improvements are continuing. Canadian agriculture can expect to experience improved conditions in the marketplace.

How has the global recovery proceeded?

In the last two years output in the industrial world has risen by about 7½% and by about 4½% in the developing world.

The International Monetary Fund projects that overall economic growth in the industrial countries will be almost 5% in 1984 alone. Inflation in industrial countries is now under better control than it has been since the late 1960's. That should bring interest rates down further over the near and intermediate term. The debt "crisis" in the developing world, while still very serious, is no longer as critical as it was. Nevertheless, it remains an issue to be dealt with in a systematic and responsible way.

Global trade -- a most important indicator for Canada -- is up by over 8% in 1984. That's coming off a reduced base but its the best record in more than a decade.

Within that spectrum of world trade, I am pleased to be able to say to you that agricultural products have shown improved performance.

The London Economist pointed out in last week's issue that international trade in agricultural commodities in 1983 totalled more than $270 billion -- more than trade in cars and chemicals put together.

Canadian agriculture set records for exports in the first half of 1984 and contributed a net $1.9 billion to Canada's balance of trade. That's a 17% improvement over 1983 -- strong growth for this important sector.

So the world has experienced an economic upturn, but on a worldwide basis recovery has not been as strong as we might have wished. This has become evident in several ways.

First, the recovery has been felt unevenly around the world. Led, as it has been, by the United States, it has had a greater impact on those countries with the closest links to the U.S.: places such as Canada, Japan and the Asian newly industrialized countries or NIC's have shared in the growth to a greater extent than others.

Recovery in the American economy has been achieved in the short term at the expense of a large government deficit, an over-valued currency caused by higher-than-normal interest rates, and an unsustainable external position. The external balance of trade deficits have been financed through high interest rates which have drawn financial resources from the rest of the world.

The heavily indebted countries have experienced a mixed response to the global recovery. Those nations with a manufacturing export base, such as Brazil and to a lesser extent, Mexico, have shared in the tremendous expansion of U.S. imports. However, high rates have raised their external interest payments on their very heavy debt load while the high foreign exchange value of the American dollar has hit commodity prices.

The heavily indebted primary commodity producing countries, such as Chile and Peru, have not shared in the recovery.

The second broad characteristic of the global recovery is that it has not been reflected in a smooth flow of credit.

While the recovery helped world trade to grow by more than 8½% in 1984, it has disrupted the flow of international credit because of the distorting effects of the U.S. international deficit.

Interest rates are still historically high even though inflation is now much better controlled. Those high rates are required to pull funds into the U.S. and the consequence of them is that there is less credit available to developing countries as well as for the remainder of the industrialized world. What funds there are, come at high cost.

The third reason that the world recovery has not been as strong as we might have hoped is that although the debt crisis has stabilized, not all its consequences have been resolved.

The continuing problems of the heavily indebted countries have a direct negative impact on agriculture in the rest of the world.

Countries which once paid cash or bought agricultural products on short-term credit, are now less able to do so. This has led to changes in policy that have distorted world trade. There are five areas that should be of concern to you who are involved in agricultural trade.

1. Some countries have adopted policies intended to help their agricultural exports which are really balance-of-payments financing. For example, to help Mexico and Brazil, the Commodity Credit Corporation in Washington has underwritten substantial exports of agricultural products to those destinations for terms up to three years. It has done the same for other countries as well. This has distorted normal trade patterns, and has the potential to hurt Canadian and other countries export sales.

2. Agricultural production is now regarded as much more important by heavily indebted countries -- particularly those where production of agricultural products had once flourished, but recently had been neglected. Two oil producers, Venezuela and Nigeria, are prime examples. The emphasis they and others now put on domestic production reduces world demand for agricultural products from countries such as Canada.

3. Developing countries with an agricultural base are now pushing production strenuously as a way of expanding their foreign exchange revenues. Argentina has emerged as an important factor in the world grain market in its drive to increase exports to service its debt. Such pressures will not decline over the foreseeable future. Vastly increased soybean production by Brazil is another example of this trend. Price cutting on tobacco products by Zimbabwe and Zambia -- both seeking enhanced market share -- is another, and one which has the potential to hurt Ontario tobacco growers.

4. Barter and counter-trade have increased, especially on the part of countries with centralized economies or controls on foreign exchange. A recent agreement between Argentina and the USSR exchanged wheat for oil, while Cuba traded sugar for Russian oil -- examples of exchanges that distort normal trade patterns. Their use is likely to become more widespread as countries seek alternatives to traditional methods of financing trade.

5. Many heavily indebted countries have removed subsidies they used to pay on foodstuffs as part of their adjustment programs. This makes economic sense but the resulting rise in prices reduces demand for certain agricultural products. These include some important heavily traded commodities such as wheat, which was subsidized in Brazil.

These are examples of how agricultural trade has been directly disrupted by the global debt crisis. Indirectly, the resulting reduction of credit availability and the continuation of high interest rates retard growth in demand, counteracting market forces.

Where do we go from here?

To begin with, if other governments are going to intervene in the financial markets to assist their exporters, Canada may very well have to follow the same course.

As the Economist points out, the U.S. will spend $600 million this year to finance price-cutting battles abroad. The EEC will devote $4.6 billion of its $13.2 billion farm budget on exporting food at less than it costs to produce.

We must respond where traditional markets are being put in jeopardy. But let's not lose sight of the fact that there is a financial cost to this type of action. It costs the public purse and we are all taxpayers. The costs can be measured and assessed but if we are to put the mechanism in place, the arrangements must be market-responsive and able to be activated quickly -- not four months after the business has been lost to a foreign competitor.

It adds up to a great deal of uncertainty about the future. Canadian agriculture faces uncertainties in respect to foreign exchange, interest rates, the degree to which protectionism will govern future markets, and the residual impacts of the LDC debt crisis.

What can be done to enhance the position of Canadian agriculture in these difficult and changeable circumstances we must deal with.

To begin with, Canadian farmers must do their utmost -- as I am sure they are -- to provide good products of consistently high quality, and dependable service.

Like any viable economic unit, agricultural producers must focus on the cost of production and do everything they can to stay efficient so they can compete in world markets. Planning for maximum economic yields is an integral and indispensable part of farm management today.

As a nation, we must do our best to meet the changing demands and realities of global markets. This year the Soviets could have bought much more wheat, if we had more to sell.

Was this a case of nature letting us down or something that could have been handled by better inventory management and control? I don't know the answer, but I think the question is worth examining.

Financing available from Canadian banks is the equal to any provided by private sector banks in the world marketplace. Unfortunately your competitors are often using government backed credits that carry terms which are beyond our ability to compete with on a commercial basis. A partnership between banks and government agencies seems to be the logical route to take in such cases.

To sum up, the challenges today and for the immediate future are formidable. We have made some progress in overcoming the serious problems that afflicted us during the first part of this decade and there are reasonable grounds for optimism.

A realistic and businesslike approach will insure that Canada's agricultural sector will persist as one of the principal elements in our nation's economy -- even in these challenging times.

IMPLICATIONS FOR CANADA

Lorne Hehn

Well, I see the two farmer reps--Mr. Poulin and myself--are backed up against your people getting equipped in time to attend the truly most important event of this conference: The Foreign Agricultural Attache's Reception. So I'll be brief.

Before starting, I should mention the papers I was supposed to receive and study in Winnipeg before I came here didn't arrive. So, I prepared my talk in Winnipeg on a wing and a prayer...in the hope my talk would fit in reasonably well with what Messrs. Hopper, Raup and Mercaldo would be saying.

I knew the three speakers were all well-versed in economics, and economics does not exactly have the reputation of a happy science. I was reminded of that last week when I came across this cartoon in the current issue of Psychology Today. (For those of you who can't see, the caption under the man and wife watching television reads,

"When oil prices went up, the economists were gloomy. Now that oil prices are down, the economists are gloomy. My conclusion is that economists are simply gloomy."

Now, some of you may ask, "Why would a farmers' representative read Psychology Today?" The answer among most farmers circles is it's almost required reading nowadays.

My approach to this afternoon's, "Implications" discussion won't be that far advanced, in a formal economics sense, beyond that of the half-wit hired man whose farmer-boss took him fishing in July in northern Saskatchewan as a reward for his hard work during seeding. After three days' fishing, and they were ready to board the plane flying back, the farmer told his half-wit hired man: "You know, this trip cost me $400 and we only caught two fish!" That's $200/fish! To which the hired man replied with his peculiar economic logic, "Good thing, boss, we never caught any more fish!"

Well, you don't have to be too swift in economics to grasp the present status of farmers in this country.

- Net income has decreased as a percentage of gross income. In 1974, net farm income was 38% of gross farm income, fell to 26% by 1978, and in 1983 net income was only 14% of gross farm income.

- Meanwhile farm debt has been increasing at the same time, rising from $5.7 billion in 1973 to $20.2 billion in 1982, the most recent years for which figures are available.

- With farmer's income level slowing and the debt rising, this has increased the debt-to-income ratio of Prairie farmers. The ratio represents the number of years it would take if Prairie farmers used all their income to pay off their debts. Debt-to-income ratios in 1974, which averaged less than 1.5, had increased to 3.5 by 1978, and in 1982, was almost 5. This rising debt-to-income ratio means farmers must commit more of their future income to debt servicing and less income will be available for expansion and reinvestment in the farm or for an improved standard of living.

- In addition to a larger debt load, interest rates have risen in both nominal and real terms, rising from 11% of operating expenses in 1970 to 16% in the current year. It means Prairie farmers not only have a larger debt load and annual principal payments, but their interest payments have risen dramatically. Not only are higher interest rates expected to continue through the 1980's, but rates are expected to be quite volatile, thereby increasing the financial risk of borrower faces.

As most of you have heard, somewhere between 3 and 5% of Prairie farmers are now defaulting on their loans, almost 20% could be in that status if some steps are not taken to improve or at least stabilize net income, and more than half the Prairie farmers are in relatively good shape.

I have gone through this brief exercise only to make sure we're all on the same wave length before I look at centrally-planned countries, and development in international finance.

THREE REALITIES

In considering the implications of the three subjects discussed, there are three realities that profoundly affect Western Canadian farmers: first, the new dynamics of the world economy; second, the fallout from fiscal restraint in the U.S.; and third, the impacts of Canada's own fiscal restraint measures.

The first and most important reality is the increasingly unstable world economic and financial environment. There's no doubt the world economy is much more volatile than it used to be. It's also a riskier place to do business. For Western farmers, that's a very important consideration, when you reflect upon how much we rely upon the export market.

The increasing level of risk has come about due to several developments. The most important have been the continued evolution of world capital markets, and the transition in the 1970's to a more volatile currency and interest rate system.

It's appropriate to take a look every once in a while at just how big a change has happened in the world financial environment. The capital and currency markets are the lubricants that keep the machinery of trade running smoothly. Considering the magnitude of what's happened, it's no wonder that people talk about how much the dollar affects trade.

Parallelling and intertwined with the development of the world capital market has been the emergence of the well-publicized world debt problem. Recent estimates place the total developing country debt at about $800 billion, with Latin America holding about half of that amount.

There may be some who will suggest that Western farmers aren't severely exposed to the world debt problem since, for example, less than 10% of grain exports in 1983/84 were destined for Latin America. The problem is, however, that in a world that is increasingly interdependent, developments in one arena can have profound ripple effects that shake the entire world financial structure.

The second major reality Western Canadian farmers will have to deal with are the consequences of fiscal restraint in the United States. While much of the attention regarding world debt has focused on the developing world, there is also the U.S., debt problem that must be considered. It's been estimated that by the middle of 1985, the U.S. will become a net debtor nation, and that by the end of 1985, it will be the world's biggest debtor nation.

Just how long that kind of trend can be maintained is unclear. But what is clear is that when the cuts come, U.S. agricultural spending will not be exempt. There will certainly be cuts in the 1985 Farm Bill--and there will probably be more in the 1989 Farm Bill.

The move to reduce government outlays will likely involve what's commonly referred to as moving towards "market oriented" farm policies. That means lower or no loan rates, lower or no target prices, and other measures that will have one major result--the lowering of world grain prices since subsidized U.S. prices act as floor prices. Also, there will be less incentive for U.S. farmers to grow large volumes and, of course, there will be an enormous fallout of farmers from foreclosures and sales. (A similar development looks likely in the EEC since taxpayers finally show signs of unwillingness to support $8 wheat.)

The move in the U.S. towards "market oriented" policies could have even broader implications for Canada if, at the same time, the Farm Bill includes a title that provides for selective export subsidies to combat what the U.S. views as unfair trading practices. This year the U.S. is expected to spend $600 million financing price-cutting battles--big enough, though not to be compared with the EEC's $4.6 billion, out of its $13.2 billion budget, used to export food at less than it cost to produce.

The final major reality Prairie farmers will have to deal with are the consequences of Canada's own domestic restraint measure. It's apparent the Government of Canada is committed to significantly reducing the size of the federal deficit and the national debt. The changes that are likely to be forthcoming could well be sweeping. Even under the most favorable of possible outcomes, farmers aren't likely to be able to rely on government to provide additional assistance to cushion the impacts of the harsh export market--under the worst of possible outcomes, Western farmers may be forced to bear an inordinate share of the burden of getting Canada's fiscal house in order.

So, these are what I see as the three major realities Western Canadian farmers will have to deal with--the new dynamics of the world economy, the fallout from fiscal restraint in the U.S., and the impacts of Canada's own fiscal restraint measures.

Looking at the implications, the major ones are that Prairie grain farmers are likely to be under extreme pressure for maybe the balance of this decade, and this financial pressure is going to be accompanied by instability. Farming has always been a low-return business, and it's always been a risky business because a farmer deals with vagaries of nature--weeds, bugs and the weather.

But a new dimension of risk has emerged. It's the increasing possibility of a complex set of circumstances coming together at the same time. Imagine, if you will, the consequences of high interest rates, high energy prices, large world grain stocks, and a strong Canadian dollar occurring at a time when the world is trying to adjust to the realities of its debt? And imagine further these combined risk factors hitting the grain farmer at a time when the government is cutting back its expenditures, as it should, in order to reduce the deficit, by cutting back support to producers through reductions in the farm budget. It would create considerably worse havoc than there now is in the country. And the trouble is it is a distinct possibility.

But I believe there are strategies that are workable, both long and short term, if we face up to certain facts of life and they are these: Farm subsidies are funded from tax money, and farmers in every other industrialized country in the world are going to see a lot less going their way. We've already seen the effects of reduced spending in Canada in the higher transportation rates, reduction in agricultural research, and finance Minister Michael Wilson's promised $63 million cut in the agricultural budget. We're likely going to see a lot more cuts as governments try to contain and cut their deficits. And I think it means we could see a lot less farmers, though the EEC and U.S. dropouts from farming will be a lot greater than ours simply because their subsidies are so much higher.

STRATEGIES

The situation, then, is Canadian farmers will be moving into a riskier environment than they have been, and the whole situation will be confounded by the machinations of the world attempting to free itself from economic strife--particularly with respect to EEC and U.S. price support policies.

Prairie farmers who have survived, and who have prospered, are those who can best handle risk. They have the ability to produce the most food for the least amount of money. That's what farming's all about.

In looking at the best way to enhance the environment the risk-taking farmer operates under, there are certain strategies that come to mind.

First, there's GATT. Late last month the GATT council agreed to talk about ways to subject world agricultural trade to the same kind of strict rules other industries are subject to. In 1983, $270 billion of agricultural products were traded --more than cars and chemicals put together--yet hardly any of it was free from some kind of artificial price support. GATT rules are what allow Japan, Taiwan and North Korea to come to the forefront in cars and electronics. The same kind of rules in the farming game could put Prairie grain farmers in the forefront simply because we have so little subsidization. In the Kennedy and Tokyo rounds in the 1960's and 1970's, attempts to regulate farm trade nearly broke up the meetings. Now, I think the U.S. and EEC are willing to move ahead. It's critically important to enhancing the Canadian competitive position. I hope we have the

best people at these meetings--inspired people who recognize our stake in free trade and not the professional who is jaded with experience or unfamiliar with the Prairie farmer's position.

Second, we need responsive stabilization programs to allow farmers to take on risk with more confidence they won't go broke doing so. The Western Grain Stabilization Plan needs to be more responsive to what actually is happening, and we need a better process for dispensation of funds rather than farm lobby process: It should be a much more business-like arrangement whereby farmers can be paid when they should be paid. The introduction next year of individual crop insurance on the Prairies will certainly help those farmers who use large amounts of inputs and want insurance at higher yield ranges. John Wise's stabilization plan for red meats, which if on a voluntary basis is similar to the grain plan, will help beef and hog producers.

Third, there's the question of research, the results of which are essential for Prairie farmers to improve their competitive position. Most Western researchers I talk to are bitter about recent cuts in funding and what they see as a loading of Agriculture Canada research positions into Eastern Canada. I don't know if they're right or wrong, but I think we should find out. I sense the direction of federal research money allocation should not be left to the bureaucrats. I believe a task force should be set up, headed by people outside Agriculture Canada, of the calibre of the men who were honored at lunch today, to assess research priorities. The objective would be to determine research needs to help farmers produce a commodity cheaper. The findings might involve a restructuring of how research projects are established; it might involve some move away from "pure" research--maybe we can't afford it--to more short-term research that finds answers to farmers' problems to 1990, and maybe directing some research money now in the hands of the National Research Council to solving practical problems facing farmers.

Fourth and finally, there's the whole matter of farm taxation and financing. Farmers have as much stake in reducing the deficit and debt as anyone else--maybe more so, since they operate on a world market. The interreaction of grain farmers with the rest of the economy is much more severe now --as we have seen with the stress among farmers that inflation and high interest rates have brought. Certainly we must get moving into finding ways to ensure cheaper money for farmers such as agribonds but we also need to look at taxation policies. Section 31 of the Income Tax Act, whereby farmers who work off-farm can't write off more than $5,000 needs to be looked at. So do we need to look at other parts of the Income Tax Act whereby for years farmers bought and sold machinery on the basis of taxable depreciation rather than real depreciation. It didn't make farmer sense, but it made income tax sense. The whole process led many farmers to overinvest in equipment and the fallout--seeing $60,000 tractors with 500 hours selling for $30,000 at auction sales is evidence of that. The whole concept of a basic tax--where everyone has a stake in keeping tax rates down and maybe where there are no writeoffs --is one I understand this government is looking at, and I'm glad it is.

PLENARY SESSION III

Thomas Maxwell

Recent months have witnessed a rapid unfolding of events in the North American economies, which under more normal circumstances, would have been expected to occur over a considerably longer period of time. Of key importance has been the rapid slowdown in the pace of economic activity in the U.S. and the associated declines in interest rates on both sides of the border. This slowdown has served to alleviate concerns about significant interest rate rises in 1985.

The events of 1984 show clearly the great influence the U.S. has on the performance of the Canadian economy. Unprecedented strength in exports of automotive products (43% in real terms), allowed the Canadian economy to record resonably strong growth in the face of a weak domestic sector. The interdependence of capital markets was once again demonstrated as interest rates in Canada rose and fell in sympathy with those in the U.S.

Most forecasts assume that the U.S. will return to stable but much slower growth in 1985. The behaviour of interest rates thus depends on the interplay between U.S. government financing requirements and the net inflow of foreign funds, which to date has financed such a large part of the U.S. recovery.

In the eventuality that there will be no massive attack on the deficit and no major increases in the supply of foreign funds, interest rates are likely to remain stable in the early part of this year, and then to start a gradual rise.

If, however, there is a concerted attack on the budget deficit and no disruption to the supply of foreign funds, interest rates could be expected to decline slowly throughout the year.

However, in both scenarios, real interest rates (the gap between interest rates and inflation), remain high by historical standards. This is because they are affected more by expectations of future government deficits and inflation than by cyclical movements in the economy.

In Canada, the recent declines in interest rates, in conjunction with the measures announced in the November Economic and Fiscal Statement, will result in the Federal deficit (on a National Accounts basis) being in the order of $27.9 billion in calendar 1985. This represents a small improvement form last year's figure of $28.3 billion. However, it remains sufficiently large that a policy of benign neglect is not feasible. With the fiscal stance geared toward deficit reduction, it is not realistic to expect growth from increases in government spending. Growth must thus have its origins in the private sector, either as a result of the natural dynamics of that sector, or from changes in government policy.

Over the past few years, Canadians have been financing the growth in consumption more from changes in their savings behaviour than from growth in their incomes. With the present level of interest rates still encouraging the rapid repayment of mortgages, with the ongoing attractiveness of RRSP's and RHOSP's, and with the general uncertainty about job prospects over the next few years, it is not likely that the savings rate will show any dramatic declines in the near future. Indeed, indications are that the phenomenon of declining savings rates has already ceased, and no further declines in the savings rate from its present level of approximately 12.5% are anticipated this year.

In view of weak employment prospects, low real wage growth and the absence of any prospective tax cuts, real personal disposable income is expected to grow by 1.7%, a similar amount as last year. In this environment of stable savings rates, consumption is constrained by income and will thus grow by approximately the same amount, viz.1.4%.

In the scenario of falling interest rates, the outlook is for stronger consumption growth, as a small decline in the savings rate of the order of 1% may be anticipated. As well, housing starts would be expected to increase by about 20 thousand units over and above the 140 thousand units in the base case.

The weakness in business investment that characterized the first two years of the recovery has eased somewhat, but all indications are that business investment will remain rather subdued this year. The same factors that have shaped the past two years, namely a cyclically normal recovery in some sectors (eg. transportation, high technology...), that is being swamped by a downsizing in the primary sector, will be in play. This downsizing, which is in response to weak demand, low commodity prices and excess capacity, is expected to continue through 1985. Thus while some sectors will show reasonably strong growth, they are not proportionately large enough to dominate the overall picture. Aggregate business investment in plant and equipment is expected to grow by 1.5% in real terms.

In an environment still dominated by longer-run factors, overall investment is not very sensitive to changes in interest rates in the short run. Hence very little change in the investment outlook would be expected in the falling interest rate scenario.

The growth of automotive exports over the past year has been nothing short of phenomenal. They have grown in real terms by 43%, a rate that far exceeds that of their market, the U.S., where demand for North American automobiles grew by a much slower amount. Growth thus occurred via a dramatic increase in market share.

In spite of a relatively weak performance in the other major categories of exports, this performance was sufficient to cause total merchandise exports to grow by 25% in real terms--an all time record for the Canadian economy. With no signs of any major increase in world demand for basic commodities in the cards, exports of primary products are expected to perform similarly to last year. Auto exports are expected to maintain their market share in 1985, and thus to grow at approximately the same rate as U.S. demand. Total merchandise exports are expected to grow by 4% this year.

Even though this is a much lower rate of growth than last year, it will still serve to bolster the weak domestic sector. Indeed, just in excess of a third of the overall growth this year will be attributable to net exports.

As a result of ongoing export growth and relatively subdued import growth, the current account of the Balance of Payments is expected to show a surplus of $3.2 billion this year, an improvement of $1 billion over last year. This, combined with a good inflation performance, should result in the Canadian dollar remaining in the 76 cent range for the year.

The rate of inflation as measured by the Consumer Price Index has been falling over the past few years and this trend is expected to be continued in 1985, when inflation is expected to average only 3.4%. This slowing in the rate of inflation is attributable to a number of factors, not least of which is the weakness in commodity prices (including oil), wage settlements remaining in line with inflation and the ongoing drive towards more productivity gains.

Thus the prospects for this year are for more stability than last year, when interest rates rose and fell so dramatically and the economy showed such wide variations in its growth patterns, both from quarter to quarter and from sector to sector.

As a result, the Canadian economy should record an annual average growth rate in the region of 2%, with the unemployment rate remaining just in excess of 11%, i.e. virtually unchanged from last year. With the principal source of growth remaining the private sector, the major barrier inhibiting the Canadian economy from achieving its potential still remains the level of real interest rates. If significant initiatives are undertaken to attack the problem, the prospects for stronger growth should be brighter.

TABLE 1. KEY ECONOMIC INDICATORS

	83:Q1	83:Q2	83:Q3	83:Q4	84:Q1	84:Q2	84:Q3	84:Q4	85:Q1	85:Q2	85:Q3	85:Q4	1983	1984	1985
Gross National Product	130 864	133 280	135 792	137 476	138 576	139 708	142 320	142 236	142 799	143 487	143 904	144 242	134 353	140 710	143 608
($ 1971)	2.0	1.8	1.9	1.2	0.8	0.8	1.9	-.1	0.4	0.5	0.3	0.2	3.3	4.7	2.1
GNP Deflator	2.860	2.891	2.986	2.932	2.965	3.004	2.989	3.015	3.082	3.068	3.082	3.107	2.905	2.993	3.072
	0.4	1.1	1.6	-.1	1.1	1.3	-.5	0.9	0.6	1.2	0.5	0.5	5.4	3.0	2.6
Consumer Price Index	2.721	2.759	2.803	2.828	2.862	2.886	2.913	2.938	2.960	2.985	3.009	3.037	2.778	2.900	2.998
	0.5	1.4	1.6	0.9	1.2	0.9	0.9	0.8	0.8	0.9	0.8	0.9	5.8	4.4	4.4
Total Employment ('000s)	10 546	10 693	10 824	10 864	10 881	10 935	11 049	11 108	11 128	11 160	11 196	11 207	10 732	10 993	11 173
	0.4	1.4	1.2	0.4	0.2	0.5	1.0	0.5	0.2	0.8	0.3	0.1	0.8	2.4	1.6
Unemployment Rate	12.5	12.2	11.6	11.1	11.3	11.4	11.3	11.3	11.4	11.3	11.3	11.3	11.9	11.3	11.3
Private Non-Farm	11.30	11.25	11.50	11.71	11.82	11.79	12.00	11.98	12.04	12.14	12.25	12.36	11.44	11.90	12.20
Average Hourly Earnings	0.8	-.4	2.2	1.9	0.9	-.2	1.7	-.1	0.5	0.8	0.9	0.9	5.6	4.0	2.5
Private Non-Farm Real	4.15	4.08	4.10	4.14	4.13	4.09	4.12	4.08	4.07	4.07	4.07	4.07	4.12	4.10	4.07
Average Hourly Earnings	0.1	-1.8	0.5	1.0	-.3	-1.1	0.8	-1.0	-.3	0.0	0.1	0.0	-.2	-.3	-.9
Federal Disposal Income	96 756	97 098	101 431	99 210	96 541	108 086	101 193	100 452	101 226	102 157	102 699	103 000	98 623	100 568	102 271
	-.8	0.4	4.5	-2.2	-.7	3.6	-.9	-.7	0.8	0.9	0.5	0.3	-.3	2.0	1.7
Private Non-Farm Productivity	0.0067	0.0065	0.0067	0.0067	0.0068	0.0068	0.0068	0.0067	0.0067	0.0068	0.0068	0.0068	0.0067	0.0068	0.0068
	1.3	-1.0	1.0	1.2	0.7	0.1	0.6	-1.5	0.0	0.4	0.0	0.1	2.3	1.8	-.8

(continued)

TABLE 1. KEY ECONOMIC INDICATORS (concluded)

	83:Q1	83:Q2	83:Q3	83:Q4	84:Q1	84:Q2	84:Q3	84:Q4	85:Q1	85:Q2	85:Q3	85:Q4	1983	1984	1985
Federal Gov't Balance	-23 852	-20 206	-28 556	-23 784	-27 684	-30 916	-30 043	-24 406	-26 611	-27 778	-28 446	-28 806	-24 100	-28 264	-27 911
Corporate Profits Before	26 340	31 628	34 928	35 540	39 612	39 516	39 652	38 500	38 935	40 104	39 244	40 322	32 684	39 320	39 151
Taxes	25.0	11.6	10.4	2.6	10.5	-.2	0.3	-2.9	-4.1	8.6	-2.1	2.7	54.8	20.3	-.4
Housing Starts ('000s)	161	209	142	132	145	133	145	127	133	135	138	141	161	138	137
Finance Company Paper Rate (90 Day)	9.62	9.32	9.33	9.55	10.08	11.45	12.45	10.92	10.19	10.36	10.42	10.50	9.45	11.22	10.37
M.Y.W. 10 Industrial Second Rate	16.15	12.45	12.99	12.78	13.41	14.57	13.62	12.78	12.49	12.23	12.18	12.19	12.84	13.60	12.27
MI	27 178	27 955	28 746	28 857	29 056	29 205	28 466	28 547	29 046	29 753	29 946	30 108	28 184	28 819	29 713
	4.7	2.9	2.8	0.4	0.7	0.5	-2.5	0.3	1.7	2.4	0.6	0.5	10.2	2.3	3.1
Exchange Rate (Canada/ U.S)	1.227	1.231	1.233	1.238	1.255	1.295	1.314	1.321	1.325	1.327	1.324	1.326	1.232	1.296	1.325
Current Acct. Balance	2 500	5 236	-1 152	156	692	2 456	2 752	3 135	2 113	3 979	3 492	3 261	1 685	2 259	3 211

TABLE 2. GROSS NATIONAL EXPENDITURES [MILLIONS OF 1971 DOLLARS] (concluded)

	83:Q1	83:Q2	83:Q3	83:Q4	84:Q1	84:Q2	84:Q3	84:Q4	85:Q1	85:Q2	85:Q3	85:Q4	1983	1984	1985
Exports	33 154	34 496	35 124	38 388	41 488	41 255	44 556	45 810	45 258	45 006	44 945	44 851	35 293	43 278	45 015
	5.1	4.0	1.8	9.3	8.1	-.6	5.0	2.8	-1.2	-.6	-.1	-.2	6.4	22.6	4.0
Mer-chan-dise	27 746	28 952	29 472	32 508	35 376	35 408	38 468	39 617	39 060	38 746	38 639	38 507	29 670	37 217	38 738
	7.9	4.3	1.8	10.3	8.8	0.1	8.6	3.0	-1.4	-.8	-.3	-.3	8.8	25.4	4.1
Imports	33 204	34 428	36 852	38 848	41 160	41 235	42 908	44 153	43 726	43 300	42 878	42 759	35 833	42 364	43 166
	5.1	3.7	7.0	5.4	6.0	0.2	4.1	2.9	-1.0	-1.0	-1.0	-.3	8.1	18.2	1.9
Mer-chan-dise	23 008	23 716	25 808	27 612	29 604	29 708	31 276	32 218	31 736	31 312	30 858	30 732	25 036	30 701	31 160
	12.0	3.1	8.8	7.0	7.2	0.4	5.3	3.0	-1.5	-1.3	-1.4	-.4	14.1	22.6	1.5
Net Exports	-40	68	-1 728	-480	328	20	1 648	1 657	1 531	1 706	2 067	2 092	-540	913	1 849
Final Demand	163 160	134 920	134 284	136 300	137 940	138 556	140 960	141 246	141 546	142 111	142 910	143 326	134 668	139 676	142 474
	-.4	1.3	-.5	1.5	1.2	0.4	1.7	0.2	0.2	0.4	0.6	0.3	0.5	3.7	2.0
Value of Physical Change in Inventor-ies	-1 924	-1 492	1 450	1 068	528	1 132	1.20	810	1 133	1 316	994	916	-222	897	1 069
Gov't	0	0	-20	-32	-12	36	20	20	20	20	20	20	-13	16	20
Busi-ness	-1 924	-1 492	1 480	1 100	540	1 095	1 100	790	1 113	1 296	974	896	-209	681	1 069
Residual Error	-380	-148	48	108	108	20	240	180	120	60	0	0	-93	137	45
GNE	130 864	133 280	135 792	137 476	138 576	139 708	142 320	142 236	142 799	143 487	143 904	144 242	134 353	140 710	143 608
	2.0	1.8	1.9	1.2	0.8	0.8	1.9	-.1	0.4	0.5	0.3	0.2	3.3	4.7	2.1

TABLE 2. GROSS NATIONAL EXPENDITURES (MILLIONS OF 1971 DOLLARS)

	83:Q1	83:Q2	83:Q3	83:Q4	84:Q1	84:Q2	84:Q3	84:Q4	85:Q1	85:Q2	85:Q3	85:Q4	1983	1984	1985
Consumer Expenditures	62 024 1.1	83 283 1.5	84 368 1.3	85 108 0.9	85 656 0.6	86 440 0.9	86 644 0.2	86 868 0.3	87 096 0.3	87 491 0.5	87 877 0.4	88 133 0.3	83 697 3.1	86 402 3.2	87 649 1.4
Gov't Spending (Goods & Services)	23 340 -1.6	23 552 0.9	23 764 0.9	24 012 1.0	24 100 0.4	24 192 0.4	24 288 0.4	24 390 0.4	24 407 0.1	24 409 0.0	24 415 0.0	24 420 0.0	23 667 0.3	24 242 2.4	24 413 0.7
Gross Fixed Cap. Form.	27 844 -3.5	28 012 0.6	27 880 -.5	27 640 -.9	27 856 0.6	27 904 0.2	28 080 1.7	28 322 -.2	28 512 0.6	28 504 0.0	28 551 0.2	28 682 0.5	27 844 -4.9	28 118 1.0	28 562 1.6
Gov't	3 944 -1.5	3 920 -.6	3 992 1.8	4 052 1.5	4 092 1.0	4 148 1.4	4 220 1.7	4 242 0.5	4 246 0.1	4 250 0.1	4 253 0.1	4 257 0.1	3 977 1.5	4 176 5.0	4 252 1.8
Business	23 900 -3.8	24 092 0.8	23 888 -.8	23 588 -1.3	23 764 0.7	23 756 0.0	24 160 1.7	24 090 -.3	24 266 0.7	24 255 0.0	24 298 0.2	24 424 0.5	23 867 -5.8	23 943 0.3	24 311 1.5
Residential Constr.	5 186 8.5	6 136 18.3	5 888 -4.0	5 320 -9.5	5 372 1.0	5 488 2.2	5 344 1.0	5 354 -3.4	5 512 -.8	5 337 0.5	5 373 0.7	5 438 1.2	5 633 24.4	5 440 -3.4	5 365 -1.4
Non-Res. Constr.	8 984 -7.5	8 528 -5.1	8 304 -2.6	8 355 0.5	8 320 -.4	8 568 3.0	8 732 1.9	8 728 0.0	8 686 -.5	8 649 -.4	8 601 -.5	8 653 0.5	8 543 -16.2	8 587 0.5	8 647 0.7
Machinery & Equip.	9 728 -5.9	9 428 -3.1	9 696 2.8	9 912 2.2	10 072 1.6	9 700 -3.7	9 884 1.9	10 008 1.3	10 268 2.6	10 269 0.0	10 324 0.5	10 334 0.1	9 691 -8.8	9 916 2.3	10 299 3.9
Final Domestic Demand	133 208 -.4	134 852 1.2	136 012 0.9	136 760 0.5	137 612 0.6	138 535 0.7	139 312 0.0	139 590 0.2	140 015 0.3	140 405 0.3	140 843 0.3	141 234 0.3	135 208 0.9	138 762 2.6	140 624 1.3

(continued)

OUTLOOK FOR SELECTED AGRICULTURAL COMMODITIES

B. Agostini

I am glad to have the opportunity to be here to comment on the global outlook for agricultural commodities which are of particular interest to Canada. I will be focussing on the coming season for grains, meat, dairy products, oilseeds and sugar, and where possible I will also give you the FAO view on the longer term outlook for these commodities.

For most of these commodities the coming year will see supplies which are well in excess of demand. Oilseeds is probably the main exception and I will say something about that in just a moment.

As a result, the outlook for 1985 is probably heavily dependent on key demand factors. These fall broadly under two headings: first, those related to general economic conditions; and, second, the financial situation of importing countries, including in particular problems of debt and the availability of credit to finance international trade.

The outstanding factor on the demand side in the past several years has been the world-wide economic recession. While the 1974-75 downturn was far steeper than any other since the early 1960s, it was relatively short and the rebound in 1976 at 8% was surprisingly strong; in fact, comparable to the recoveries for instance in 1962 and 1969. It was also close to the record growth rate obtained in the 1973 boom year.

By contrast, the second oil shock in 1979 set off a chain of events which led to the most prolonged economic slow-down since the 1930s. Indeed, a limited recovery did not start until 1983 when world industrial production rose by an estimated 3.2%. This rate was about the same as those attained at the troughs of the business cycles in 1967 and 1971. The reversal of recessionary trends started in the United States, but it has spread recently to other industrialized countries and to some of the developing countries as well. However, the recovery has not become general even among the industrialized countries; in western Europe for instance growth was still weak in the first half of 1984.

Forecasts for the world economy at this time show continuing economic expansion through 1985. The expected growth of output at 3.5 and 4% in 1984 and 1985 is much higher than the growth rates obtained in the first three years of the 1980s, but they are modest for a period of recovery. Similarly, the expected increase in the volume of world trade at 4 and 5% in 1984 and 1985, are considerably above the rates obtained in the recent past but they do not indicate a particularly strong revical in the demand for exports.

On the financial side, the negative effect on trade of the external indebtedness of the developing countries and some of the eastern European countries are well known. These countries are major markets for agricultural products, but by last year many of them were forced to impose severely restrictive measures on imports under austerity programmes set-up to correct their deteriorating external payments positions. An indication of the extent of the problem is given in recent UNCTAD secretariat calculations which show that, by the end of the current year, the total medium and long-term outstanding debt of the net debtor developing countries alone will reach U.S.$637 billion, up from $457 billion in 1981. This will be equivalent to 128% of their total export earnings, compared with 99% in 1981. Short-term debts would probably add another U.S.$100 billion to this figure. The servicing of external debts uses up probably close to a third of the export earnings of the developing countries as a group, including some of the largest oil exporters. In the most heavily indebted countries the ratio is far higher.

Given the outlook for a moderate increase in demand in the short-run and abundant supplies of agricultural products, one could expect an improvement in the volume of trade in 1985 over the very poor record of the recent past when trade had virtually stagnated. However, most agricultural prices will remain under downward pressure.

In the course of 1983 there was a recovery in many agricultural commodity prices from the sharp slide of the preceding two years. This was in some important cases the result not only of an upturn in demand, but perhaps more importantly of supply shortages. Other prices at the same time remained depressed. On average the upswing was moderate compared to the preceding price declines, moreover, by the second half of 1984 the upward trend was tapered off. In view of the expected modest recovery in Europe and Japan, the excess capacity prevailing in many markets for agricultural raw materials and the large stocks of some commodities, prices are not likely to rise significantly in 1984-85. As a result, international agricultural commodity prices on average in 1985 could still be much below their levels five years earlier.

Another aspect of the price outlook relates to the likely developments in commodity prices in real terms. Prices of manufactured products fell in the first three years of the 1980s, mitigating in real terms the decline in nominal prices and enhancing the upturn in 1983. The price forecast for manufactures indicate significant upturns in both 1984 and 1985. It would seem, therefore, that part of the improvement in the terms of trade of agricultural exporters will be reversed in 1984 and even more so in the coming year when nominal prices for a number of agricultural commodities will weaken or remain depressed.

GRAINS

The 1983-84 grain season closed with world carryover stocks of coarse grains at extremely low levels. Global output had fallen by some 13% in 1983 to the lowest level since 1975. As a result, a large drawdown in carryover stocks was required to meet current consumption needs in 1983-84. By the end of the season, global stocks of coarse grains were almost 50% below their opening levels and the lowest since the world food crisis in 1973-74. Prices rose sharply: the average export price for United States maize was nearly 30% higher than in 1982-83 and, in real terms, the highest since the mid-seventies.

The supply situation for wheat in 1983-84 was very different: supplies were ample for the third consecutive year and a large volume was put into stock. Prices remained low in terms of U.S. dollars although, for a number of countries, import prices increased in terms of their national currencies. Due to the low price of wheat relative to that of maize there was a significant shift towards greater feed-use of wheat in a number of countries.

Current crop estimates indicate that the situation for coarse grains is becoming somewhat more balanced during 1984-85. Production is currently forecast to increase sharply to 802 million tonnes, some 16% above last year's level, largely reflecting the recovery of output in the United States where the weather was good and farm support programmes were adjusted to stimulate an increase in production. Crops were also substantially larger in the EEC and in many other countries in western and eastern Europe. However, output in the USSR was down sharply and many countries in eastern and southern Africa have been badly hit by drought again. The larger supplies of coarse grains have resulted in a decline in prices and, notwithstanding the expected increase in utilization in 1984-85, there will be some replenishment of the heavily depleted stocks.

For wheat, production in 1984 is currently forecast to increase by 4% to 516 million tonnes reflecting record crops in the EEC and larger crops in a number of other countries in Europe and the United States. Output in the developing countries is also slightly higher, but this primarily reflect larger crops in China, India and Mexico; production is estimated to have declined in several countries such as Argentina and Pakistan. World stocks are expected to increase further from already high opening levels of 132 million tonnes to 143 million tonnes, largely due to increased supplies in the EEC. With larger production and stocks, prices may well remain at their current low levels.

World grain trade in 1984-85 is currently forecast at 198 million tonnes, 9 million tonnes more than the previous year. This would largely reflect the expected increase of 12 million tonnes in purchases by the USSR. Except for the USSR and Africa, where drought has raised the import requirements of a number of countries, imports are not forecast to rise in 1984-85. Larger crops will reduce the imports of many countries including China, India, the EEC and Spain. In addition, foreign exchange constraints are limiting the food imports of low-income countries and the feedgrain imports of some developed and higher-income developing countries.

The main dynamic element influencing the demand for grains in international markets in 1984-85 is, as in recent years, the USSR. During the period 1980-81 to 1984-85, the USSR grain imports have risen by an estimated 11 million tonnes, whereas global trade has increased only marginally. This has been due to the inability of the USSR to raise grain production sufficiently to meet domestic requirements. During the same period, imports into both the EEC and eastern Europe fell by 10 million tonnes each mainly as a result of increased production and structural changes in the markets for animal feed.

Looking ahead, a number of key factors - some of which are structural and some of a more transitory nature - could influence world grain markets in the next few years. These include:

- The degree of success which the USSR will have in sustaining higher levels of production and the extent to which it will remain a big grain importer; past experience shows that the USSR grain production and consequently imports fluctuate widely thus introducing a major element of uncertainty in world grain markets;

- whether trends towards increased production and declining imports will be maintained in countries such as China, India, the EEC and some in eastern Europe, which were large grain importers in the 1970s;

- the extent to which economic recovery will strengthen demand for livestock production, and hence grain for animal feed, in developed as well as in middle and higher-income developing countries;

- the success of farmers in developing countries raising their levels of production;

- the extent to which the developing countries' balance of payments situation and access to credit will enable them to purchase the grain which they cannot produce and the availability of food aid;

- the effects of changes in policies in major producing countries, particularly the EEC, where action is envisaged to reduce the cost of market support, and the United States, where existing agricultural legislation expires in 1985;

- the extent to which continuing strong competition for markets will persist and hence give rise to a more extensive use of export subsidies, credits and other similar measures.

MEAT

Production of meat in 1984 was adversely affected by continued slack demand in most parts of the world and significant rises in prices of concentrate feeds. However, because of a number of special factors related to government action to curb excess milk output, and another marked rise in USSR meat output, world meat production increased again in 1984, though more slowly than in 1983. There were considerable carry-over stocks in some major exporting countries so that supplies in international trade remained ample in relation to demand. As a consequence, prices remained weak, particularly in the beef sector.

The outlook for 1985 is for some strengthening of demand, notably in the developing regions. While poultry farming could benefit from lower feed prices next year, world production of bovine, sheep, goat and pig meat is likely to stagnate. In addition, supplies of beef from countries which are not free of foot and mouth disease, in particular most members of the EEC, are likely to remain large. This means that although there may be some increase in international prices of bovine and pig meat, the overall rise in prices will be limited.

During the remainder of the 1980s, growth in world meat production and consumption is expected to be concentrated in the developing regions, notably Asia, in the centrally planned developed countries, in Japan and perhaps in Southern Europe.

In North America, North West Europe and Oceania, little if any increase is expected. In these areas, population growth is slow, meat per capita consumption levels are already high and income elasticities of demand are approaching zero. Also, social trends such as an increase in the proportion of meals taken away from home, combined with the trend towards greater processing of meat, is facilitating the increased use of substitutes based on vegetable proteins. Moreover, a small but rising proportion of the population has been reducing or abandoning meat consumption altogether because of health, ethical and other considerations. Finally, there has been growing dissatisfaction among consumers with the quality of certain types of meat produced under very intensive management.

As a result, the overall rise in consumption in these areas will probably be limited, and the shift from beef to poultry, particularly in Canada and the United States, may well continue. Another trend which has been seen in recent years which is likely to continue is the tendency towards increased self-sufficiency in major import areas, such as the Near East and the USSR. This suggests that there is relatively little scope for increased trade. Trade in poultry meat may actually decline whereas some increase is expected for bovine, sheep and goat meat.

In the EEC, the policy to curb excess milk production should in the longer run lower beef production capacity though demand prospects do not suggest that this would necessarily mean a corresponding reduction in export surpluses. Any reduction in beef surpluses in West Europe would benefit in particular exporters in the southern hemisphere where beef output is likely to recover in the second half of the 1980s.

In many existing and potential exporting countries investment into cattle, sheep and goat production has been discouraged by the long depression of prices in international trade. However, the flexibility of the pig and poultry sectors and the current trends in demand suggest that the pig and poultry sector is more likely to benefit from future increases in meat demand than cattle, sheep and goat producers, provided that concentrate feed supplies are adequate.

The cattle cycles in major trading countries which up to the mid-1970s influenced prices and supplies in international meat trade so much, have since then been more subdued and will probably remain so in the near future. This, together with the decline in importance of beef in total meat output, has made the world meat economy increasingly vulnerable to changes in supplies and prices of concentrate feed, and especially grains.

Finally, as protectionist trends seem likely to persist, the international market is likely to remain narrow and prices will remain highly susceptible not only to changes in supply and demand in national markets, but also to the impact of national policy measures.

MILK AND MILK PRODUCTS

Part of the problems in the meat sector are due to measures which have been taken to curb excess milk production, especially in the United States and the EEC. World milk output remained virtually unchanged in 1984, partly reflecting such action and partly the deterioration in the general feed situation. However, owing to large carry-over stocks of milk products in exporting countries and, on the whole, slack demand in importing countries, prices in international trade continued to fall.

The short-term prospects indicate continuing slow growth of world milk production. The expansion in developing Asia is likely to continue and production may begin to recover in Latin America. However, governments in western Europe and North America governments aim to curb milk output further. In the USSR, the feed situation in 1984-85 is less favourable than the year before while dairy farmers' incomes in Oceania have been increasingly eroded by falling international prices. A moderate rise in production is possible in eastern Europe and Japan.

Demand for milk and milk products is likely to remain relatively strong in North America and East Asia and there could be some recovery elsewhere in the developing regions. Only a small increase in demand is expected in western Europe, but demand is still rising significantly in eastern Europe and the USSR. The USSR and the developing countries may well increase their imports of milk products in 1985. However, in view of the large stocks carried over from 1984 by the main exporters, the overall level of prices in international dairy trade is likely to remain depressed in the short term. Prices of certain fresh dairy products, though, may become firmer. A high proportion of international transactions will probably again take place on special terms, along with large-scale domestic surplus disposals, especially in the EEC and the United States. Butter, butter oil, skim milk powder and, in the United States, cheese will remain the principal items in domestic surplus disposal programmes and food aid. In the medium term, once exporters have worked down their stocks, there should be a more general rise in international market prices.

OILSEEDS, OILS AND OILMEALS

After the 1984 setback, the world oilseeds, oils and oilmeals economy is likely to resume its long-term expansion in 1985. The very tight supply situation experienced in 1984 will become more comfortable, although not plentiful, as new crop supplies of oils and oilmeals are not expected to exceed the long term trends whereas requirements are above average, particularly for fats and oils. In addition to meeting current consumption requirements there is the need to replenish stocks which were depleted in 1984.

Output of edible/soap fats and oils is forecast at a record 66 million tonnes, 7% above the 1984 level and 3% above the previous record in 1983. World production of oilmeal proteins is forecast to increase more sharply to 46 million tonnes, 11% above 1984 and about the same as the 1983 record.

One third of the recovery in fats and oils production, and two thirds of that in oilmeals production are due to the expected increase of 10% in the 1984-85 world soybean harvest, mainly as a result of a bigger crop in the United States.

But all the other main oilseeds are also likely to contribute to the overall recovery in output. For rapeseed, which is of major importance for Canada, the world harvest is estimated to be 11% above 1983-84. In Canada, increased canola plantings resulted in a bigger crop, despite unfavourable weather. With high yields and a further expansion in area, the EEC harvest exceeded the 1982 record. In China, on the contrary, continuing policy disincentives resulted in a further reduction in the crop.

The considerably increased output from new crops expected in 1985 appears sufficient not only to meet foreseeable world consumption requirements of both oils and oilmeals, but also to permit some replenishment of stocks, which were heavily drawn upon during 1984. However, output is not expected to exceed the long-term trend and the scope for stock rebuilding is therefore limited.

Supplies of both oils and oilmeals are forecast to be ample in exporting countries, while demand from importing countries, particularly for fats and oils, is likely to be high to meet current consumption requirements and to replenish stocks. Thus, international trade in 1985 could resume its expansion after the decline in 1984.

The prospective supply situation suggests that international market prices of most oilseeds, oils and oilmeals could remain below year-earlier levels at least until mid-1985. They have already been below last year's level for some time, especially those of oilmeals, while oil prices have fallen less. Indeed, the weakness in oilmeal prices has been a supporting factor for oil prices as additional price incentive had to be provided by the oil sector for the industry to crush a sufficient volume of oilseeds to meet the relatively price-inelastic demand for oil. As a result, in the case of soybeans the value of the oil content increased on average to 45% of the total value in 1984 compared with 34% in 1983 (visual aid). In the case of rapeseed, which is of more interest for Canada, the value of the oil increased from 64% in 1983 to 75% in 1984. Clearly this change, which is not likely to be reversed soon, has benefitted oilseeds with a higher oil content, such as rapeseed, more than those like soybeans which have a low oil content. This was reflected this year in better price gains over last year for rapeseed (+6% on average) than for soybeans (+4%).

In addition to being encouraged by lower prices, demand could also benefit from continuing recovery from economic recession in a growing number of countries as well as, for oilmeals, from the continuing growth in poultry production and an improvement in the profitability of livestock feeding.

Demand will, however, be dampened in a number of countries by other factors, including continuing inflation and recession, the scarcity of foreign exchange and the strength of the U.S. dollar which - if continued in 1985 - would prevent declines in U.S. dollar prices being fully reflected in lower consumer prices in many importing countries. For oilmeals, demand could also be affected by reductions in animal numbers, especially in response to policy disincentives to the dairy industries in the EEC and the United States.

SUGAR

World sugar production in 1984-85 is expected to reach 97 million tonnes, 1.4% above the 1983-84 weather reduced level. However, as consumption increased by only 2%, and large stocks accumulated from previous years were overhanging the market, the steep fall in prices which began in 1981, continued in 1984. In current terms, the International Sugar Agreement daily price, which dropped from an average of 29 U.S. cents per lb in 1980 to 17 cents in 1981, fell further to a little over 8 U.S. cents in 1982 and 1983. It averaged only 5.5 U.S. cents in 1984, thus reaching the lowest level in thirteen years. Measured in real terms, the decline was even more dramatic; prices averaged 4.4 U.S. cents per lb in 1984, the third lowest, (after 1966 and 1968) since 1920, the earliest year of the ISO series. In fact sugar prices in 1984 expressed in real terms were undoubtedly among the lowest recorded in this century.

World sugar trade, which had declined in 1983 for the first time in six years, fell further in 1984, reflecting lower import needs in many traditional markets. The most significant developments have been lower imports into the USSR, Japan, the United States and China, and a further cutback in imports by a number of other developing countries. Among developed countries, imports by the United States were smaller under a reduced sugar import quota for 1984-85, while the imports of Japan and the USSR were expected to decline in 1984 following better 1983-84 domestic harvests. In the United States, and to a lesser extent Japan, high fructose corn syrup (HFCS) and other alternative sweeteners continued to make further inroads into the market, mainly at the expense of imported sugar.

Although a small rise in consumption is anticipated for 1985, the large stocks accumulated in 1981-82 and 1982-83 will continue to overhang the market in 1984-85, preventing any sustained recovery in prices next year.

Given the present extremely depressed state of the world sugar market with little evidence that the cycle is about to bottom out, and the continuing inroads into the market by other sweeteners, many experts have been extremely gloomy about future prospects. This gloom is confirmed by projections which we have recently done, which point to a consumption level of about 110 million tonnes in 1990. This would imply a fairly substantial increase in absolute terms - some 15 million tonnes above the present level - but nowhere near as large as the increase in world supplies would be if recent production trends and policies continue. World sugar production has already exceeded 100 million tonnes and the productive capacity probably already exists to produce and harvest such larger crops. However, it seems unlikely that recent trends can continue. Sugar producers are bound to react to persistently unremunerative prices, if they are not already doing so, and governments will review their

policies as the burden of financing surplus production becomes excessive. However, there seems very limited prospect of a substantial increase in trade in sugar, since a large part of the projected increase in consumption to 1990 in developing countries, where most of the increase will take place, will be accounted for by higher domestic production. We have, therefore, assumed in our projections that more exporting countries will adjust their policies accordingly.

The scenario, therefore, is for the sugar market to be in balance by 1990 but how quickly this situation arises will depend on how quickly producing countries adjust their present programmes to the realities of the market.

CANADIAN AGRICULTURAL OUTLOOK 1985-89

H. Bruce Huff

INTRODUCTION

This paper will highlight the main features of the outlook for 1985 and 1986. The outlook will be more thoroughly discussed during the detailed presentations on the major commodity markets and food prices in the simultaneous sessions later today. As well, the paper includes a medium term outlook for 1987-89. Implications of weaker than expected international grain markets and a stronger Canadian dollar are presented.

To provide an overview of the situation and medium-term outlook for total Canadian agricultural sector, forecasts of commodity production, prices and retail food prices will be used. Gross domestic product in Canadian agriculture (which is a measure of real value added) is expected to decline 4% for 1984, primarily as a result of lower grain production in Western Canada due to a drought. Next year, GDP is forecast to increase about 6% as grain production recovers. Over the medium term, a small increase in agricultural GDP is projected for 1986, followed by average annual growth of about 3% for the period 1987-89. For the five-year period (1985-89), average production increases are above the previous 10-year average (1974-83) of 2.5%.

Average farm prices to producers of agricultural products are expected to increase 3.7% this year, but then rise only slightly in 1985 due to a combination of prices that are flat for grains, declining for oilseeds and poultry products, but up moderately for other livestock and dairy products. Farm prices are forecast to rise about 1% again in 1986, followed by somewhat more sizable increases, averaging 4% per year during 1987-89. For the five-year period, 1985-89, average annual price increases would likely be well below the previous 10-year average annual rate of 5.7%.

Retail food prices are expected to increase slightly less than 6% in 1984, somewhat higher than the 4.3% rate of overall inflation. Food price inflation is forecast to moderate to between 3-5% in 1985, and 1986, but at a slightly higher rate for the remainder of the forecast horizon. Food price inflation is expected to be marginally higher than the general inflation rate over the forecast period 1985 to 1989, but well below the 10.2% of the 1974-83 period.

The Outlook for Canadian agriculture is based on the Conference Board's forecast of the general economic situation, expectations of world agricultural conditions, and the current economic situation in the agricultural sector. Each of these factors is examined before turning the details of the commodity markets outlook.

Canadian Economy

As indicated in the Conference Board of Canada presentation, the Canadian economy will show relatively little growth in 1985, followed possibly by a mild recession in the first half of 1986. Real GNP will grow 0.6% in 1985, 0.4% in 1986, and average a more robust 2.5% over the 1987-89 period. Real disposable income is currently expected to grow 2.0% in 1985, 0.2% in 1986 and average a healthier 2.0% in 1987-89. Consumer expenditures will also be weak, increasing 0.5% in 1985 and declining 0.4% in 1986. They are expected to strengthen, to approximately the same rate as real disposable income from 1987 to 1989.

Inflationary expectations appear moderate. CPI is forecast to increase 3.9 to 3.6% respectively in 1985 and 1986, followed by an average 4.0% in the remainder of the period. The unemployment rate will likely persist at current high levels. The Canadian dollar is expected to devaluate (relative to the U.S. dollar) further in 1985, before a trend of modest revaluation is expected in 1986-89. Persistently high real interest rates, resulting from high U.S. rates, remain a most pressing issue.

World Agricultural Outlook

It appears that 1985 will be the best year of economic growth in both the industrialized and developing countries in at least eight years. Increased levels of trade are expected, including agricultural trade.

There are, however, difficulties which may restrict growth in trade. Firstly, debt repayment problems in developing countries will persist especially in Latin America where 38% of outstanding external debt exists. These will be aggravated by expected higher interest rates and possibly rising value of the U.S. dollar, in the near term. This may further affect their ability to import food. Secondly, there is an increasing tendency toward protectionistic policies, export incentives for surplus production, and aggressive market penetration activities for agricultural trade. Thirdly, many developed countries have increased agricultural production and accumulated large stocks in 1984. These imbalances are expected to persist for several years, resulting in low international commodity prices especially for grains and oilseeds, dairy products, sugar and tobacco. Lower farm incomes have prompted developed countries to postpone the necessary production adjustments by maintaining higher domestic prices or incomes. Fourthly, much of the world cereal trade is imported by the Centrally Planned Economies. Improved production in China and possibly USSR could greatly reduce import demand in the medium term.

A number of positive signs are on the horizon which may influence the 1987-89 period. Lower interest rates, a devalued U.S. dollar and small increases in energy prices will stimulate commodity demand and reduce producer cost pressures. Forecasts of 1984 and 1985 for the non-oil developing countries show sharply increased value of exports, purchasing power of exports, current account balance and oil trade balance. Policies to restrict agricultural output in the EEC and U.S. have been introduced and others have been proposed which should become more effective through time. Discussions are ongoing at the GATT to lower protection in the agricultural sector and a number of bilateral market concessions were negotiated in 1984.

Current Agricultural Situation

In retrospect, 1984 was a more difficult year for many groups in the Canadian agriculture and food sector than expected. Total agricultural production declined substantially, following a smaller decrease in 1983. This production decline can be traced largely to the impact of a severe drought in the southern prairies. Beef production in Canada was also down more than expected in 1984, and the main cause of this decline was the fewer calves being produced by a shrinking Canadian beef herd and fewer dairy cows being slaughtered this year. Surplus production and anticipated lower demand prompted lower quotas for eggs (5%), turkeys (8%), and tobacco (21% for Ontario flue-cured) which reduced their 1984 production. Offsetting these declines were higher industrial milk production in 1984, as the increased production level at the end of 1983/84 dairy year continued into the current dairy year. Higher quotas for chicken were in response to increased poultry consumption mainly in the fast food outlets. Hog marketings were at record levels as higher than expected production occurred in the second half of the year. Very high prices for rapeseed in the spring of 1984 caused a much larger increase in acreage resulting in larger than anticipated production.

Agricultural prices are estimated to increase 3.7% in 1984, after two years of decline. The higher agricultural prices were due in part to the five percent devaluation of the Canadian dollar relative to the U.S. dollar. As well, the increases for feed grains and especially oilseeds, in the first half of 1984 were the result of reduced world production. Higher poultry and egg prices were the result of the feed cost increases reflected in the cost of production formulae. Despite higher U.S. production, there were increased beef prices, reflecting the much stronger U.S. economy. Lower production of pork in the U.S. caused higher Canadian prices. Strong export markets for both potatoes and apples were an important factor in supporting higher prices until the last quarter of 1984. Surplus world production lowered sugar prices. Milk price increases were limited by the four percent price guideline.

Food prices in 1984 are expected to be slightly less than 6% above those in 1983, the first real increase in food prices consumers have faced since 1981. Canada's agricultural trade surplus is likely to increase again in 1984, but this increase will likely be the smallest since 1978. Total agricultural exports of $9.5-$9.7 billion will exceed imports of $5.2-$5.5 billion to create a $4.3-$4.5 billion trade surplus for agriculture in 1984.

OUTLOOK FOR 1985, 1986 AND 1987-89

Grains and Oilseeds

The most dramatic change for 1985 for Canadian grains and oilseeds is the rebound anticipated in Prairie wheat and barley yields so that production would be near 1982 and 1983 levels for wheat and about 20% above the past two years for barley. Canadian exports of all grains and oilseeds in 1984/85 will be about 25% below the record of the past year and will likely remain almost 10% below the record level again in 1985/86.

Area devoted to grains in Canada for 1985 should be slightly higher for both wheat and coarse grains, at the expense of oilseeds. Total acreage, however, may be up slightly. These acreage forecasts are based on an expected relatively higher prices for grains than oilseed and low stock levels for all grains, especially wheat.

In the medium term for Canada, small increases are expected in acreages and yields of wheat for 1986 and 1987-89. Estimates for wheat production indicate about 2% increase for each year. For coarse grains, a production increase of about 6% is expected for 1986 but only slightly higher for 1987-89 following lower prairie feed grain prices expected in 1986. These production increases will allow a small, continuing growth in exports of wheat (to new record levels by 1987/88) and coarse grains, depending on world market conditions. Further declines in oilseed production are seen in 1986 because of lower prices expected in 1985. Some recovery is expected in 1987-89. Oilseed exports are anticipated to remain close to those in recent years.

Internationally, wheat and coarse grain production in 1985 is expected to be similar to 1984. EEC production of wheat and barley is likely to remain high, with high export levels especially for wheat. Purchases by centrally planned economies are responsible for increases in wheat and coarse grain trade in 1984/85. Considerable uncertainty exists for 1985/86 and beyond if grain production improves in USSR.

With similar world supplies expected, wheat and feed grain prices in 1985/86 should remain near 1984/85 levels. Larger world production will likely generate a price decline for oilseeds (6.5%). For 1986/87, small increases in grain and oilseed prices are expected, but lower Prairie barley prices reflecting a return to more normal supply conditions. For 1987/88 - 1989/90, small price increases are expected for wheat and oilseeds and a slightly higher increase is expected for feed grains.

These price forecasts are based on continuing small price increases in U.S. wheat, corn and soybean prices in 1985-89 crop years.

Red Meats

In 1985, total red meats production in Canada is expected to be down 1-2%. Pork production in North America is likely to be down 2-3% in the first half of 1985, following the low pork prices and high feed costs in late 1983 and early 1984. In contrast, in the second half of 1985, the impact of higher pork prices since the second quarter of 1984 combined with lower feed prices in 1984/85 should lead to 1-3% higher North American production. Beef production in North America should decline 3-4% in 1985 reflecting the lower calf crop of the past few years and an end to the decline of the breeding herd. If herd rebuilding does begin in 1985, even further production declines will occur. Fewer dairy cows are likely to be slaughtered in the U.S. under the existing U.S. dairy policy regime.

In the medium term beef and pork markets are expected to take divergent paths. In 1986, Canadian

pork production is expected to be five percent higher, continuing the increases of the second half of 1985. Pork is expected to maintain a cyclical production path with a downturn again in 1988. Beef production in 1986 could be down substantially in Canada (5%), particularly if herd rebuilding commences on an industry-wide basis, as anticipated. Based on past relationships, the average level of beef production in 1987-89 may still be below the 1984 level. Nevertheless, the potential does exist for lower than expected feed grain and higher beef prices which would lower beef production in 1986 but cause increases in the 1987-89 period.

Red meats prices in 1985 are expected to be higher with the lower production of beef and some further strengthening of the U.S. and Canadian economies. Beef prices are expected to be up about 2-3% and pork prices about 5%. For 1986 and 1987-89, low levels of beef production in North American and strengthening economies should produce about 4% annual increases in beef prices. Lower pork prices (4%) in 1986 will reflect higher North American pork output. Pork prices in 1987-89 should reflect cyclical production expected in this period, but may average 8% above the low 1986 price level.

International trade in red meats and poultry meat has been under considerable scrutiny during 1984. Many of these pressures will likely remain in 1985. Canadian pork exports to Japan will continue to face heavy competition from EC exports, leaving the U.S. as the major market. EC beef production is expected to rise again next year, maintaining the pressure to expand their exports. EC exports are expected to increase by 17% in 1984 to 700 000 tonnes (carcass weight) and intervention stocks to 450 000 tonnes.

Poultry and Eggs

The most important factor influencing the poultry and egg sector in 1985 will be lower feed costs. Through the cost of production formulae, expected declines in farm gate poultry and egg prices in 1985 are about 3% for turkey, 4% for eggs, and 5-6% for broilers. Based on only modest increases expected in feed costs, poultry and egg prices for 1986 and 1987-89 should increase by about 3-4% each year.

The lower prices expected in 1985 will help stimulate higher demand for eggs and turkeys of about 2% in 1985 in contrast to the declines for both in 1984. The apparent shift in consumer tastes for chicken from fast food outlets is expected to continue into 1985, with per capita broiler consumption forecast to be up 6% following a 7.4% increase in 1984. Domestic chicken production should account for all of this consumption increase as well as reduce the current level of imports.

In 1986 and 1987-89, modest growth in per capita consumption is foreseen for both chicken and turkey. For eggs, consumption may be near population growth. Production in Canada is expected to increase in line with consumption.

Dairy Products

Faced with high surplus butter stocks, very weak international prices and a reduced subsidy on the Special Export program, it is expected that Canadian industrial milk shipments will be about 3% lower in 1985. As well, a recovery in butter consumption from the depressed levels of the second and third quarters of 1984, coupled with higher cheese disappearance, could leave surplus butter stocks little changed from year earlier levels by the end of 1985.

In 1986, no increase is anticipated in industrial milk requirements because lower butter will offset higher cheese consumption. Because of low inflation rates and low feed grain and oil meal price increases, producer prices under the target returns formula are expected to increase 2.7% in 1986 and about 3% annually for 1987-89. Very small increases are expected in industrial milk requirements, during the 1987-89 period to satisfy higher cheese consumption.

Horticulture and Special Crops

Canadian fruit production is expected to increase in 1985 from improved yields and new plantings for several crops. Apple production during 1985-89 is expected to average 2-4% higher each year and a similar increase is expected for tender fruits and berries. Lower net exports to EC are likely because of its increased production and an appreciated Canadian dollar. In particular, Canadian grapes for wine face the most difficult market situation due to very large EC wine surpluses. Domestic demand for fruits is expected to increase moderately with the improved consumer incomes and small price increases.

Above average supplies of potatoes and storable vegetables, combined with a larger world potato crop will lower 1985 prices. A stronger economy coupled with lower prices will increase domestic disappearance. Higher 1985 potato production is likely through higher yields, which may maintain prices in 1985-86 near current levels. About a 3% annual growth rate in potato production is expected for the remainder of the 1980s with a very small increase in average prices during this period.

Higher world tobacco stocks, lower prices and declining EC imports as well as Canada's market share will likely lead to reduced Canadian tobacco exports in 1985. If the 1985 export target of 41 000 tonnes is not met, further reductions will occur in the tobacco marketing quota. Domestic tobacco consumption will likely decline by 1-2%. Health considerations both in Canada and internationally will likely result in a further decline in tobacco demand.

The world sugar market will likely be nearly in balance in 1984/85, but very large stocks will maintain relatively low prices. Strengthening of prices is unlikely until the latter part of the forecast period and a price boom is unlikely.

AREAS OF UNCERTAINTY

Medium term forecasts are risky since abnormal weather, foreign policy changes and general economic conditions can radically change agricultural forecasts. There are three such assumptions that could substantially alter this forecast. These are the 1985 U.S. Farm Bill, the Canada-U.S. exchange rate and the level and/or Canada's share of world wheat trade. The impact of these different assumptions are illustrated.

International Grains Prices

The U.S. is currently examining alternatives for the 1985 Farm Bill to revise legislation which expires at the end of 1985/86 crop year. There is considerable pressure to reduce budget exposure and as a result, there may be lower prices for grains. However, under the current economic situation of considerable financial stress for producers, only very small adjustments are anticipated. A proposed scenario freezes U.S. crop prices in 1986/87 (at 1985/86 levels), with small decreases (2-3%) each year thereafter. The major impacts in Canada in addition to lower grain prices and production is lower prices and higher production of pork starting in 1988.

In comparison to the above forecasts, for 1987-89, agriculture prices would be about 2 percentage points lower, output 0.6 percentage points lower, consumer prices would be about 1 percentage point lower and cash receipts about 2.5 percentage points lower.

U.S. Exchange Rate

Another issue for which there is uncertainty is whether the U.S. dollar is "over-valued" and if so, when it may decline. It is widely anticipated that a slowdown in the U.S. economy, lower interest rates, and declining capital inflows to the U.S. will occur, lowering the U.S. dollar vis-à-vis other currencies, including the Canadian dollar. If the U.S. dollar declined relative to the Canadian dollar by 5 cents (i.e., 0.81 versus 0.76) starting in 1985 through 1989, agricultural prices and production in Canada would decline. In comparison to the base forecast, agricultural prices are expected to decline by 2.4 percentage points in 1985, but only small subsequent further declines. As expected, the largest production impact would be in 1986, and GDP agriculture would be 0.6 percentage points lower, but further changes would be very small. Cash receipts would decline by almost 2 percentage points in 1985 and 1 additional percentage point each year thereafter, in comparison with previous forecast. Partially offsetting this decline would be lower costs as reflected by the Farm Input Price Index, projected to decline 2 percentage points in 1985 and an additional 0.6 percentage points in 1986.

Canadian Wheat Exports

The world wheat market is highly dependent on Centrally Planned Economies imports. In 1983/84, it was estimated that over 20% of world exports was imported into the USSR, with 30% supplied by Canada. If this market was reduced and/or Canada lost its large share of this market, total Canadian wheat exports could decline. A declining wheat export scenario is examined for 1985-89, with 1985 exports at 20 million tonnes declining one million each year thereafter.

Thus for 1987-89, average annual wheat exports would be 5.8 million tonnes lower than the most likely situation. This would lower total agricultural production by 0.8 percentage points and agricultural prices by 0.2 percentage points. The major change would be a decline in wheat production, a sharp rise in wheat stocks and an increase in coarse grain production.

COMMODITY OUTLOOK SUMMARY

In summary, overall agricultural product prices are expected to rise about one percent in 1985 and in 1986, but at about a four percent annual rate in 1987-89. Stronger livestock than crop prices are expected especially in 1985. Oilseeds in 1985 are expected to decline substantially from last year's large increase.

Retail food prices increases are expected to moderate to about 3-5% in 1985 and in 1986 but at a slightly higher rate during 1987-89. Thus, food prices are likely to increase slightly faster than other consumer prices. In 1985, retail prices for beef, dairy products, cereal and bakery products, and fats and oils will be above the average increase, while lower poultry and egg prices will offset some other food price increases.

Canadian agricultural output in 1985 should rebound sharply from the lower 1984 production, increase slightly in 1986 and grow at about two percent annual rate in 1987-89. Crop production will account for most of this increase in 1985 and 1986. Red meat production is unlikely to increase before 1988, and poultry and egg production increases would likely be modest except for 1985.

The value of agricultural exports will likely decline in 1985 in light of reduced grain exports. Higher exports are expected in 1986 but only moderate growth rates are expected in 1987-89.

The examination of the uncertainty of this forecast in terms of weather, foreign policy and exchange rate variations indicated a significant risk exists for prices to decline, especially for grains and oilseeds.

In general, nevertheless, the medium term outlook for the agricultural sector indicates modest improvements in production, farm income, and producer prices, with moderate food price increases.

TABLE 1. CANADIAN COMMODITY PRODUCTION FORECASTS[a]

	1984	1985	1986	1987-89
	percentage change			
Wheat	-21	25	2	2
Coarse grains	4	9	6	1
Oilseeds	27	-7	-4	5
Beef	- 5	-3	-5	3
Pork	6	0	5	2
Chicken	8	11	2	2
Turkey	- 1	6	3	2
Eggs	- 3	1	1	1
Industrial milk	6	-3	0	0
Total output (GDP)	- 4	6	1	3

[a]Mean of range

TABLE 2. CANADIAN COMMODITY PRICE FORECASTS[a]

	1984	1985	1986	1987-89
	percentage change			
Wheat[b]	0	0	2	3
Barley[c]	4	0	-5	5
Canola[d]	-12	-7	3	2
Beef[e]	8	3	4	4
Pork[f]	3	5	-4	8
Chicken[g]	9	-6	3	5
Turkey[g]	9	-3	3	4
Eggs[h]	5	-4	1	3
Industrial milk[i]	5	3	3	3
Average farm price[j]	4	1	1	4

[a]Mean of range
[b]1 CWRS, Thunder Bay (Crop Year)
[c]1 fd WCE Thunder Bay (Crop Year)
[d]1 Vancouver (Crop Year)
[e]A 1/2, Toronto
[f]Index 100, Toronto
[g]Live broiler, Toronto
[h]A Large, producer
[i]Target Returns formula
[j]Farm product price index

FARM INCOME SITUATION AND OUTLOOK

George Andrusiak

It is my task today to discuss farm income for 1984 and to try and develop some scenarios and projections for 1985.

Essentially what I will be presenting today consists of taking the assumptions underlining the commodity and farm input outlooks that are presented at this Conference and translating these forecasts into financial projections.

I will be discussing four major series today.

1. Farm Cash Receipts

   What farmers receive for the products they sell including any stabilization or deficiency payments they may receive.

2. Farm Operating Expenses and Depreciation Charges

   These are the costs incurred by farmers in operating the farm business plus an allowance for depreciation to take into account the wear and tear on farm machinery and buildings.

3. Realized Net Income

   This series is the difference between farm cash receipts and farm operating expenses and represents what is left over for personal living, taxes and reinvestment. (There are some adjustments which have to be made between the two series such as inclusion of income in kind which represents the value of farm produce consumed in the farm home, but these series are of lesser importance, and I will not cover them specifically today.)

4. Total Net Income

   This series includes an adjustment for changes in grain stocks and livestock inventories.

Before proceeding with projections for 1984 and 1985, I should mention a few points that will aid in the interpretation of these numbers.

- The series presented reflect the situation of the farm business operation only. Therefore it excludes off-farm income, that is wages and salaries, investment income, etc. that farm operators and their families may be receiving.

- The national aggregates which are going to be presented do not provide a picture of how well different types of farming operations are performing. For example, it is difficult to draw any conclusions as to how well the dairy farms are performing versus the hog farms versus grain farms, etc. As well I will not cover the regional perspective as this will be dealt with in detail in the farm income and cost session later this afternoon.

- The projections presented are very sensitive to changes in the agricultural situation including market conditions, both domestic and international and weather conditions. For example, a 1% change in farm cash receipts manifests itself as approximately a 5% change in realized net income.

- The projections presented herein are not on a per farm basis and therefore do not account for changes in the number of farms which have been occurring over time.

1984 SITUATION

For 1984 we have arrived at what some agricultural specialists might consider to be a surprising result given the situation in Canadian agriculture and in particular the drought in Western Canada. Net farm income at the national level is projected to increase by 14% in 1984 to a level of $3.8 billion from the revised 1983 level of $3.3 billion.

Let's examine some of the factors that are leading to this projection.

First, we have to consider the fact that January to September farm cash receipts were estimated at $14.6 billion, up over 7% from the same period in 1983.

Secondly, let's consider the situation for the 1983/84 and 1984/85 crop years and take a look at what has been happening to producer deliveries. Although the overall grain crop in 1984 was substantially below that of 1983, the current indications are that producer deliveries during the August to December period will be very close to the same level of deliveries achieved in the August to December period of 1983. Although there is less grain to market in 1984/85, a large portion of this grain is in fact being delivered in the August to December period. August to December deliveries have averaged approximately 45% of total crop year deliveries for the past five years. Based on current indications, this percentage will rise to 55% during the 1984-85 crop year.

Thirdly, there has been a Western Grain Stabilization Act payout of $223 million in 1984 while there were no payments in 1983 and, as well, significant crop insurance payouts have also kept the 1984 income levels up.

Fourthly, as you will see later in the presentation, the livestock sector registered increases in 1984 receipts.

FARM CASH RECEIPTS 1984

Based on the assumption that initial prices for grain delivered to the Wheat Board will remain at the present level and taking into account the increase in barley initial prices announced in November by the Minister responsible for the Wheat Board, the farm cash receipts from wheat sales are expected to decline approximately 5% while barley receipts will be down approximately 23%. Other important factors pertaining to crops in 1984 include canola/rapeseed receipts which are projected to be about 24% higher in 1984 than in 1983. Higher prices, particularly in the first seven months of 1984 contributed significantly to the increase. Corn deliveries will increase in the latter half of 1984 as record Canadian production was achieved this fall. Despite this fact, 1984 receipts from corn are expected to be down approximately 7%. This is in large part due to the fact that a large portion of the 1983 crop

was in fact sold in the last quarter of 1983 and not carried over into 1984. Potato receipts are estimated to be up approximately 9% in 1984 as both increases in prices and quantities sold have been projected.

As a result of these factors, receipts from crops will make up slightly less than one half of farm receipts and are projected to increase $500 million to a level of $9.6 billion in 1984.

Livestock

Livestock and livestock product receipts will contribute approximately 48% to the national farm cash receipts estimates and these receipts are projected to increase by $600 million or 7% in 1984.

Cattle and calve receipts have been projected to increase approximately 3%. Although slaughter levels were down throughout most of the year, higher farm prices more than compensated for the decline.

A combination of higher prices and higher slaughter levels will lead to approximately an 8% increase in farm cash receipts from hog sales in 1984 to a level of $1.9 billion. This is in contrast to 1983 when hog receipts had declined from year earlier levels to a level of $1.7 billion.

For dairy products, we are projecting an increase of about 9% in farm cash receipts. A quantity increase of 3% combined with an average price increase for the year of 6% should result in receipts achieving a level of $2.7 billion, excluding dairy supplementary payments.

Poultry receipts should finish the year approximately 12% higher than in 1983. Increase in both prices and quantities will be responsible for the increased level of receipts. In addition to these major items, some of the other livestock items are also projected to increase in 1984, including receipts from the sale of honey, furs, and wool.

As a result, total farm cash receipts, including both crop and livestock commodities, will reach a level of about $20 billion, an increase of 6.5% from the level in 1983.

Expenses - 1984

Farm operating expenses including depreciation charges are projected to increase 5% in 1984.

Feed costs are projected to increase by 10% to a level of $2.2 billion. Higher prices prevalent during the first seven months of the year were the major factor behind the increase.

Fertilizer expenditures have been projected to increase approximately 10% based on a 6% increase in average prices and a 4% increase in overall utilization.

Total expenditures on interest charges in 1984 will likely increase approximately 10% based on a 5% increase in average interest rates and a 5% increase in debt outstanding.

Depreciation charges on machinery and buildings will be lower in 1984 than in 1983. The major reason for this decline is the reduction of new machinery purchases over the past few years.

Value of Inventory Change and Total Net Income

I have already mentioned that producer deliveries since August of this year have been proportionally higher than in previous years. This will result in a very large depletion in grain stocks by the end of this month so that the value of inventory change, that is the value of farm held stocks will decline by about $1 billion from the beginning of 1984 to the end of 1984. This will result in total net income being at a level of approximately $2.8 billion or approximately $1 billion below realized net income.

FARM CASH RECEIPTS 1985

Crops

Even if we assume a return to normal crop conditions in 1985, wheat and barley cash receipts are projected to be down significantly in the next calendar year. This will be a result of the fact that our grain harvest was significantly lower in 1984 combined with the high level of producer marketings which is occurring in the August to December period. The current projections are for oilseed receipts to be little changed from 1984 levels, despite an anticipated decline in 1985 prices as volumes should increase in 1985. The decline in direct grain receipts is expected to be offset by 1) lower deferments of income into 1986 than has historically been the case, and 2) the Western Grain Stabilization Act.

Livestock

Livestock and livestock products receipts should attain a level of approximately $10 billion in 1985. There is little change expected in the receipts from the sale of cattle and calves although some increase in slaughter cattle prices has been forecast by Agriculture Canada economists as farm inventories decline and available supplies are reduced. For hogs, some increase in slaughter levels combined with a continued increase in farm prices leads to a projected increase of approximately 4% in receipts in 1985.

In summary, total farm cash receipts from both the crop and livestock sector are expected to reach a level of about $20.2 billion in 1985, an increase of approximately 1% from 1984 levels.

Expenses 1985

Based on the assumptions presented at this Conference, present indications are that total farm operating expenses and depreciation charges will rise to a level of $17 billion in 1985, an increase of 1% over the 1984 projected level. Declines in interest expenditures and feed costs are both assumed for 1985. Feed prices should decline in 1985 from the levels which were prevalent in the early part of 1984. Total interest expenses have been projected to decrease by about 5% reflecting the continuing decline in interest rates which started in the latter half of 1984.

Fuel expenses will not increase due to the effect of the rebates of the Federal Fuel Excise Tax and the exemption from the increase in petroleum and gas compensation charge for off-road vehicles.

Farm cash receipts are expected to increase by about 1% to a level of $20.2 billion. Farm expenses and depreciation charges are also expected to increase slightly to a level of $17 billion. As a result, current projections are that realized net income in current dollars will remain at the 1984 level of $3.8 billion.

In conclusion, I would again like to stress the sensitivity of the realized net income projection and the fact that a 1% change in cash receipts or expenses will influence the level of realized net income by approximately 5%. In addition, I want to again mention that what I have presented is a national aggregate picture and that not all farmers, all types of farms, or all regions share equally in the distribution of the receipts, expenses, and realized net income. A further perspective on provincial situations and projections will be provided in the session this afternoon by my colleague, Peter Lye.

SUMMARY

The projections of farm income presented herein are based primarily on the assumptions which are inherent in the commodity outlook papers prepared by Agriculture Canada.

1984

Farm cash receipts are projected to increase 7% to $20.0 billion.

Farm operating expenses and depreciation charges are projected to increase 5% to $16.4 billion.

Realized net farm income is therefore projected to increase by 14% to $3.8 billion.

Total net income which takes into account changes in farm stocks of grain and livestock inventories would remain close to the 1983 level of $2.8 billion.

1985

Total farm receipts are projected to increase 1% to $20.2 billion.

Total farm operating and depreciation charges are projected to increase by 1% to $16.7 billion.

Realized net farm income would therefore remain close to 1984 levels at $3.8 billion.

Total net income has not been projected in numerical terms, but a return to more normal crop production in 1985 would result in an increase in total net income in 1985.

1984 SITUATION

The drought which occurred in 1984 in Western Canada is not having as significant an impact on 1984 realized farm net income as may have been anticipated.

The major reasons that realized net income in 1984 has not fallen are:

- a high rate of grain deliveries in the August/December 1984 period. Approximately 55% of total deliveries for the 84/85 crop year will be made before January 1st compared to 45% for the same period 1 year earlier.
- crop insurance payments have offset some production losses,
- a Western Grain Stabilization payment of $223 million on the 1983/84 crop year was made in calendar year 1984 while there was no payment in calendar year 1983,
- the livestock sector registered increases in 1984 with receipts from cattle, hogs, dairy and poultry all increasing.

Most expenditure costs increased in 1984, but the overall increase in operating expenses and depreciation charges was less than the increase in farm cash receipts.

Total net income, which takes into account changes in farm stocks, will be approximately $1.0 billion less than realized net income at a level of $2.8 billion, largely because of the depletion in grain stocks. This depletion will limit the amount of grain remaining for sale during January-July 1985.

1985 OUTLOOK

Significant declines in direct farm receipts from grain sales are projected during the first half of the year because of low stocks.

The decline in grain receipts will be somewhat offset by the Western Grain Stabilization Act, and it is also projected that farmers will not defer as much income from 1985 to 1986 as has been the case historically.

A 2% increase in farm cash receipts from livestock sales is projected.

These factors would keep 1985 farm cash receipts at close to 1984 levels (an increase of 1%).

Farm expenses are also projected to increase slightly (1%). Declines in total interest and feed expenses are projected while fertilizer costs will increase. Fuel expenses are projected to be unchanged largely because of the rebates on the federal fuel excise tax and the exemption from the increase in the petroleum and gas compensation charge for off-road vehicles.

Realized net income is therefore projected to be close to the 1984 level of $3.8 billion.

TABLE 1. FARM CASH RECEIPTS 1983 TO 1985, CANADA

	1983	1984	1985
		($ thousand)	
Wheat[1,4]	4 239 684	4 041 255	
Oats[1]	52 701	56 872	
Barley[1]	920 919	711 657	
Crop ins., advances, deferments, & WGSA[2]	232 623	614 952	
Rye	60 639	56 606	
Flaxseed	151 238	149 433	
Canola/Rapeseed	726 364	898 021	
Soybeans	252 594	239 737	
Corn	598 084	558 511	
Sugar beets	46 090	38 134	
Potatoes	282 556	308 199	
Fruits	269 715	273 542	
Vegetables	465 856	517 329	
Tobacco	286 169	396 333	
Other crops[5]	555 183	798 629	
Total crops	9 140 415	9 659 210	9 771 688
Cattle and calves	3 426 048	3 536 460	
Hogs	1 713 417	1 847 971	
Sheep and lambs	28 233	30 413	
Dairy products	2 492 261	2 721 323	
Poultry	766 573	856 300	
Eggs	483 213	496 803	
Other livestock	173 546	190 626	
Total livestock	9 083 291	9 679 896	9 828 212
Other cash receipts[3]	522 094	631 722	585 092
Total cash receipts	18 745 800	19 970 828	20 184 992

See footnote(s) at end of tables.

TABLE 1A. FARM OPERATING EXPENSES AND DEPRECIATION CHARGES, 1983 TO 1985, CANADA

	1983	1984	1985
		($ thousand)	
Taxes[a]	273 120	281 881	
Gross farm rent	694 153	652 850	
Wages to farm labour	1 242 223	1 310 714	
Interest on indebtedness[b]	1 904 608	2 090 427	
Total machinery expenses[c]	2 366 784	2 489 521	
Fertilizer and lime	1 214 532	1 339 124	
Other crop expenses[d]	1 024 404	1 088 910	
Feed[e]	1 958 360	2 162 018	
Other livestock expenses[f]	581 205	581 647	
Repairs to buildings[g]	256 087	260 742	
Electricity and telephone	333 159	350 716	
Miscellaneous[9]	1 076 426	1 117 621	
Total operating expenses	12 925 061	13 726 171	13 931 492
Depreciation on buildings	508 723	483 287	477 228
Depreciation on machinery	2 238 016	2 234 886	2 257 234
Total operating expenses and depreciation charges	15 671 800	16 444 344	16 665 954
Income of farm operators from farming operations			
Cash receipts	18 745 800	19 970 828	20 184 992
Income-in-kind[h]	256 056	258 695	264 549
Realized gross income (1+2)	19 001 856	20 229 523	20 449 541
Operating & depreciation charges	15 671 800	16 444 344	16 665 954
Realized net income (3-4)	3 330 056	3 785 179	3 783 587
Value of inventory changes	-678 456	-990 699	
Total net income (5+6)	2 651 600	2 794 480	

See footnote(s) at end of tables.

TABLE 2. FARM CASH RECEIPTS 1983 TO 1985, NEWFOUNDLAND

	1983	1984	1985
		($ thousand)	
Wheat[1,4]	0	0	
Oats[1]	0	0	
Barley[1]	0	0	
Crop ins., advances, deferments, & WGSA[2]	1	1	
Rye	0	0	
Flaxseed	0	0	
Canola/Rapeseed	0	0	
Soybeans	0	0	
Corn	0	0	
Sugar beets	0	0	
Potatoes	1 065	1 008	
Fruits	779	343	
Vegetables	1 880	2 167	
Tobacco	0	0	
Other crops[5]	995	1 052	
Total crops	4 720	4 571	4 991
Cattle and calves	1 837	1 721	
Hogs	4 504	4 694	
Sheep and lambs	134	133	
Dairy products	7 327	7 308	
Poultry	7 777	10 594	
Eggs	8 240	8 970	
Other livestock	551	617	
Total livestock	30 370	34 037	33 588
Other cash receipts[3]	139	312	143
Total cash receipts	35 229	38 920	38 722

See footnote(s) at end of tables.

TABLE 2A. FARM OPERATING EXPENSES AND DEPRECIATION CHARGES, 1983 TO 1985, NEWFOUNDLAND

	1983	1984	1985
		($ thousand)	
Taxes[a]	25	26	
Gross farm rent	120	120	
Wages to farm labour	3 935	4 124	
Interest on indebtedness[b]	1 468	1 545	
Total machinery expenses[c]	2 173	2 329	
Fertilizer and lime	1 041	1 133	
Other crop expenses[d]	785	816	
Feed[e]	13 212	14 560	
Other livestock expenses[f]	719	781	
Repairs to buildings[g]	420	439	
Electricity and telephone	824	867	
Miscellaneous[9]	1 714	1 832	
Total operating expenses	26 436	28 572	29 272
Depreciation on buildings	707	672	659
Depreciation on machinery	1 287	1 337	1 350
Total operating expenses and depreciation charges	28 430	30 581	31 281
Income of farm operators from farming operations			
Cash receipts	35 229	38 920	38 722
Income-in-kind[h]	500	498	489
Realized gross income (1+2)	35 729	39 418	39 211
Operating & depreciation charges	28 430	30 581	31 281
Realized net income (3-4)	7 299	8 837	7 930
Value of inventory changes	837	-73	
Total net income (5+6)	8 136	8 764	

See footnote(s) at end of tables.

TABLE 3. FARM CASH RECEIPTS 1983 TO 1985, PRINCE EDWARD ISLAND

	1983	1984	1985
		($ thousand)	
Wheat[1,4]	303	413	
Oats[1]	492	548	
Barley[1]	1 871	2 380	
Crop ins., advances, deferments, & WGSA[2]	1 947	2 600	
Rye	0	0	
Flaxseed	0	0	
Canola/Rapeseed	0	0	
Soybeans	0	0	
Corn	0	0	
Sugar beets	0	0	
Potatoes	65 002	71 542	
Fruits	1 756	1 774	
Vegetables	4 295	4 848	
Tobacco	11 315	13 096	
Other crops[5]	6 091	7 644	
Total crops	93 072	104 845	89 684
Cattle and calves	24 343	23 879	
Hogs	19 572	22 189	
Sheep and lambs	180	219	
Dairy products	26 108	28 536	
Poultry	508	515	
Eggs	2 738	2 899	
Other livestock	2 267	2 783	
Total livestock	75 716	81 020	84 785
Other cash receipts[3]	7 280	7 510	9 016
Total cash receipts	176 068	193 375	183 485

See footnote(s) at end of tables.

TABLE 3A. FARM OPERATING EXPENSES AND DEPRECIATION CHARGES, 1983 TO 1985, PRINCE EDWARD ISLAND

	1983	1984	1985
		($ thousand)	
Taxes[a]	1 390	1 451	
Gross farm rent	2 920	2 920	
Wages to farm labour	16 447	16 728	
Interest on indebtedness[b]	13 400	13 815	
Total machinery expenses[c]	21 722	23 503	
Fertilizer and lime	15 334	16 699	
Other crop expenses[d]	10 504	10 948	
Feed[e]	17 192	19 289	
Other livestock expenses[f]	5 094	6 567	
Repairs to buildings[g]	2 628	2 759	
Electricity and telephone	3 848	4 096	
Miscellaneous[9]	8 250	8 808	
Total operating expenses	118 729	127 583	129 813
Depreciation on buildings	3 167	3 009	2 949
Depreciation on machinery	15 902	16 206	16 368
Total operating expenses and depreciation charges	137 798	146 798	149 130
Income of farm operators from farming operations			
Cash receipts	176 068	193 375	183 485
Income-in-kind[h]	2 914	3 510	3 400
Realized gross income (1+2)	178 982	196 885	186 885
Operating & depreciation charges	137 798	146 798	149 130
Realized net income (3-4)	41 184	50 087	37 755
Value of inventory changes	1 452	2 055	
Total net income (5+6)	42 636	52 142	

See footnote(s) at end of tables.

TABLE 4. FARM CASH RECEIPTS 1983 TO 1985, NOVA SCOTIA

	1983	1984	1985
		($ thousand)	
Wheat[1,4]	652	768	
Oats[1]	232	252	
Barley[1]	166	201	
Crop ins., advances, deferments, & WGSA[2]	438	150	
Rye	0	0	
Flaxseed	0	0	
Canola/Rapeseed	0	0	
Soybeans	0	0	
Corn	0	0	
Sugar beets	0	0	
Potatoes	5 273	4 595	
Fruits	20 557	24 759	
Vegetables	7 296	7 644	
Tobacco	2 240	2 640	
Other crops[5]	10 478	13 849	
Total crops	47 332	54 858	52 407
Cattle and calves	24 722	24 464	
Hogs	28 198	31 827	
Sheep and lambs	1 274	1 364	
Dairy products	67 789	73 022	
Poultry	24 436	27 574	
Eggs	19 824	19 502	
Other livestock	10 516	11 630	
Total livestock	176 759	189 383	196 501
Other cash receipts[3]	10 898	14 902	13 580
Total cash receipts	234 989	259 143	262 488

See footnote(s) at end of tables.

TABLE 4A. FARM OPERATING EXPENSES AND DEPRECIATION CHARGES, 1983 TO 1985, NOVA SCOTIA

	1983	1984	1985
		($ thousand)	
Taxes[a]	2 005	2 093	
Gross farm rent	1 521	1 521	
Wages to farm labour	27 621	28 095	
Interest on indebtedness[b]	14 008	15 398	
Total machinery expenses[c]	22 963	24 553	
Fertilizer and lime	7 584	8 259	
Other crop expenses[d]	8 232	8 628	
Feed[e]	66 862	71 743	
Other livestock expenses[f]	4 194	4 296	
Repairs to buildings[g]	4 234	4 425	
Electricity and telephone	5 203	5 425	
Miscellaneous[9]	10 774	11 438	
Total operating expenses	175 201	185 874	190 454
Depreciation on buildings	7 526	7 150	7 007
Depreciation on machinery	15 723	16 168	16 330
Total operating expenses and depreciation charges	198 450	209 192	213 791
Income of farm operators from farming operations			
Cash receipts	234 989	259 143	262 488
Income-in-kind[h]	6 170	6 188	6 356
Realized gross income (1+2)	241 159	265 331	268 844
Operating & depreciation charges	198 450	209 192	213 791
Realized net income (3-4)	42 709	56 139	55 053
Value of inventory changes	2 299	355	
Total net income (5+6)	45 008	56 494	

See footnote(s) at end of tables.

TABLE 5. FARM CASH RECEIPTS 1983 TO 1985, NEW BRUNSWICK

	1983	1984	1985
		($ thousand)	
Wheat[1,4]	428	543	
Oats[1]	1 321	1 280	
Barley[1]	579	659	
Crop ins., advances, deferments, & WGSA[2]	2 054	2 200	
Rye	0	0	
Flaxseed	0	0	
Canola/Rapeseed	0	0	
Soybeans	0	0	
Corn	0	0	
Sugar beets	0	0	
Potatoes	43 337	51 050	
Fruits	7 146	8 201	
Vegetables	7 188	7 748	
Tobacco	1 129	1 548	
Other crops[5]	1 647	12 351	
Total crops	64 829	85 580	69 104
Cattle and calves	20 910	21 654	
Hogs	20 598	21 955	
Sheep and lambs	250	285	
Dairy products	45 041	51 969	
Poultry	19 047	21 092	
Eggs	11 806	13 339	
Other livestock	3 252	3 584	
Total livestock	120 904	133 878	138 066
Other cash receipts[3]	9 840	10 742	12 120
Total cash receipts	195 573	230 200	219 290

See footnote(s) at end of tables.

TABLE 5A. FARM OPERATING EXPENSES AND DEPRECIATION CHARGES, 1983 TO 1985, NEW BRUNSWICK

	1983	1984	1985
		($ thousand)	
Taxes[a]	2 118	2 211	
Gross farm rent	1 001	1 001	
Wages to farm labour	19 049	19 374	
Interest on indebtedness[b]	16 759	18 606	
Total machinery expenses[c]	25 311	27 461	
Fertilizer and lime	12 299	13 393	
Other crop expenses[d]	10 227	10 825	
Feed[e]	37 229	42 329	
Other livestock expenses[f]	2 164	2 692	
Repairs to buildings[g]	3 426	3 611	
Electricity and telephone	4 487	4 735	
Miscellaneous[g]	7 005	7 597	
Total operating expenses	141 075	153 835	155 194
Depreciation on buildings	3 812	3 621	3 549
Depreciation on machinery	15 281	16 307	16 470
Total operating expenses and depreciation charges	160 168	173 763	175 213
Income of farm operators from farming operations			
Cash receipts	195 573	230 200	219 290
Income-in-kind[h]	4 166	4 217	4 331
Realized gross income (1+2)	199 739	234 417	223 621
Operating & depreciation charges	160 168	173 763	175 213
Realized net income (3-4)	39 571	60 654	48 408
Value of inventory changes	-8 285	-6 956	
Total net income (5+6)	31 286	53 698	

See footnote(s) at end of tables.

TABLE 6. FARM CASH RECEIPTS 1983 TO 1985, QUEBEC

	1983	1984	1985
		($ thousand)	
Wheat[1,4]	9 023	10 957	
Oats[1]	8 532	9 835	
Barley[1]	19 111	23 987	
Crop ins., advances, deferments, & WGSA[2]	39 376	8 500	
Rye	0	0	
Flaxseed	0	0	
Canola/Rapeseed	0	0	
Soybeans	0	0	
Corn	115 843	134 739	
Sugar beets	3 262	1 289	
Potatoes	36 479	42 671	
Fruits	35 116	35 781	
Vegetables	83 379	97 867	
Tobacco	23 675	26 379	
Other crops[5]	49 917	84 863	
Total crops	423 713	476 868	477 447
Cattle and calves	295 938	298 843	
Hogs	563 519	588 959	
Sheep and lambs	3 731	4 146	
Dairy products	906 359	1 017 417	
Poultry	215 909	237 506	
Eggs	82 794	85 167	
Other livestock	29 412	35 647	
Total livestock	2 097 662	2 267 685	2 354 719
Other cash receipts[3]	232 661	248 790	258 483
Total cash receipts	2 754 036	2 993 343	3 090 649

See footnote(s) at end of tables.

TABLE 6A. FARM OPERATING EXPENSES AND DEPRECIATION CHARGES, 1983 TO 1985, QUEBEC

	1983	1984	1985
		($ thousand)	
Taxes[a]	36 495	38 320	
Gross farm rent	21 244	21 053	
Wages to farm labour	203 265	207 330	
Interest on indebtedness[b]	241 439	258 015	
Total machinery expenses[c]	234 520	250 125	
Fertilizer and lime	143 442	157 930	
Other crop expenses[d]	119 393	131 992	
Feed[e]	649 492	705 348	
Other livestock expenses[f]	61 768	63 521	
Repairs to buildings[g]	51 371	52 861	
Electricity and telephone	65 425	66 970	
Miscellaneous[9]	142 046	156 244	
Total operating expenses	1 969 900	2 109 709	2 138 310
Depreciation on buildings	68 440	65 018	63 718
Depreciation on machinery	195 169	198 046	200 026
Total operating expenses and depreciation charges	2 233 509	2 372 773	2 402 054
Income of farm operators from farming operations			
Cash receipts	2 754 036	2 993 343	3 090 649
Income-in-kind[h]	58 946	58 547	59 400
Realized gross income (1+2)	2 812 982	3 051 890	3 150 049
Operating & depreciation charges	2 233 509	2 372 773	2 402 054
Realized net income (3-4)	579 473	679 117	747 995
Value of inventory changes	-29 638	2 653	
Total net income (5+6)	549 835	681 770	

See footnote(s) at end of tables.

TABLE 7. FARM CASH RECEIPTS 1983 TO 1985, ONTARIO

	1983	1984	1985
		($ thousand)	
Wheat[1,4]	92 249	110 090	
Oats[1]	2 263	2 230	
Barley[1]	15 846	15 814	
Crop ins., advances, deferments, & WGSA[2]	78 896	30 000	
Rye	755	808	
Flaxseed	0	0	
Canola/Rapeseed	0	0	
Soybeans	252 594	239 737	
Corn	460 035	409 030	
Sugar beets	0	0	
Potatoes	52 518	47 800	
Fruits	109 895	108 684	
Vegetables	264 972	294 715	
Tobacco	247 810	352 670	
Other crops[5]	254 447	384 978	
Total crops	1 832 280	1 996 556	1 975 377
Cattle and calves	1 131 133	1 138 684	
Hogs	596 472	621 672	
Sheep and lambs	11 920	12 501	
Dairy products	847 804	913 388	
Poultry	274 701	304 613	
Eggs	189 599	195 533	
Other livestock	48 266	52 367	
Total livestock	3 099 895	3 238 758	3 320 505
Other cash receipts[3]	124 721	191 360	145 594
Total cash receipts	5 056 896	5 426 674	5 441 476

See footnote(s) at end of tables.

TABLE 7A. FARM OPERATING EXPENSES AND DEPRECIATION CHARGES, 1983 TO 1985, ONTARIO

	1983	1984	1985
		($ thousand)	
Taxes[a]	51 121	46 976	
Gross farm rent	122 694	114 106	
Wages to farm labour	420 974	439 159	
Interest on indebtedness[b]	499 836	530 042	
Total machinery expenses[c]	432 421	453 718	
Fertilizer and lime	239 837	276 292	
Other crop expenses[d]	281 638	296 906	
Feed[e]	681 503	744 201	
Other livestock expenses[f]	307 644	288 114	
Repairs to buildings[g]	78 439	82 675	
Electricity and telephone	95 270	99 687	
Miscellaneous[9]	312 904	328 444	
Total operating expenses	3 524 281	3 700 320	3 744 808
Depreciation on buildings	189 775	180 286	180 286
Depreciation on machinery	448 220	441 602	446 018
Total operating expenses and depreciation charges	4 162 276	4 322 208	4 371 112
Income of farm operators from farming operations			
Cash receipts	5 056 896	5 426 674	5 441 476
Income-in-kind[h]	67 180	67 779	71 314
Realized gross income (1+2)	5 124 076	5 494 453	5 512 790
Operating & depreciation charges	4 162 276	4 322 208	4 371 112
Realized net income (3-4)	961 800	1 172 245	1 141 678
Value of inventory changes	-116 112	125 183	
Total net income (5+6)	845 688	1 297 428	

See footnote(s) at end of tables.

TABLE 8. FARM CASH RECEIPTS 1983 TO 1985, MANITOBA

	1983	1984	1985
		($ thousand)	
Wheat[1,4]	571 107	558 596	
Oats[1]	7 585	8 333	
Barley[1]	157 614	140 776	
Crop ins., advances, deferments, & WGSA[2]	-6 787	80 187	
Rye	13 820	13 102	
Flaxseed	88 904	91 653	
Canola/Rapeseed	125 853	138 750	
Soybeans	0	0	
Corn	22 206	14 742	
Sugar beets	15 822	11 683	
Potatoes	30 689	36 770	
Fruits	0	0	
Vegetables	10 161	11 392	
Tobacco	0	0	
Other crops[5]	47 562	79 514	
Total crops	1 084 536	1 185 498	1 206 200
Cattle and calves	246 434	254 652	
Hogs	155 201	178 532	
Sheep and lambs	1 400	1 482	
Dairy products	97 798	102 841	
Poultry	41 841	50 761	
Eggs	45 377	45 226	
Other livestock	18 029	18 555	
Total livestock	606 080	652 049	677 134
Other cash receipts[3]	37 097	30 659	28 013
Total cash receipts	1 727 713	1 868 206	1 911 347

See footnote(s) at end of tables.

TABLE 8A. FARM OPERATING EXPENSES AND DEPRECIATION CHARGES, 1983 TO 1985, MANITOBA

	1983	1984	1985
		($ thousand)	
Taxes[a]	33 876	35 367	
Gross farm rent	88 000	85 360	
Wages to farm labour	68 005	72 739	
Interest on indebtedness[b]	165 323	183 423	
Total machinery expenses[c]	286 949	304 534	
Fertilizer and lime	188 069	217 408	
Other crop expenses[d]	148 415	158 085	
Feed[e]	115 506	135 027	
Other livestock expenses[f]	25 210	24 528	
Repairs to buildings[g]	21 561	21 087	
Electricity and telephone	29 596	31 859	
Miscellaneous[9]	92 216	95 196	
Total operating expenses	1 262 726	1 364 613	1 387 312
Depreciation on buildings	19 936	18 939	18 560
Depreciation on machinery	244 541	247 140	249 611
Total operating expenses and depreciation charges	1 527 203	1 630 692	1 655 483
Income of farm operators from farming operations			
Cash receipts	1 727 713	1 868 206	1 911 347
Income-in-kind[h]	19 334	19 707	19 953
Realized gross income (1+2)	1 747 047	1 887 913	1 931 300
Operating & depreciation charges	1 527 203	1 630 692	1 655 483
Realized net income (3-4)	219 844	257 221	275 817
Value of inventory changes	-149 227	-40 883	
Total net income (5+6)	70 617	216 338	

See footnote(s) at end of tables.

TABLE 9. FARM CASH RECEIPTS 1983 TO 1985, SASKATCHEWAN

	1983	1984	1985
		($ thousand)	
Wheat[1,4]	2 545 151	2 373 304	
Oats[1]	7 619	9 765	
Barley[1]	283 774	211 266	
Crop ins., advances, deferments, & WGSA[2]	35 989	282 071	
Rye	31 549	27 825	
Flaxseed	45 778	50 325	
Canola/Rapeseed	263 578	382 335	
Soybeans	0	0	
Corn	0	0	
Sugar beets	0	0	
Potatoes	5 243	4 268	
Fruits	0	0	
Vegetables	0	0	
Tobacco	0	0	
Other crops[5]	44 004	70 275	
Total crops	3 262 685	3 411 434	3 533 095
Cattle and calves	463 951	532 181	
Hogs	77 909	92 263	
Sheep and lambs	2 137	2 216	
Dairy products	67 774	74 877	
Poultry	27 277	31 131	
Eggs	18 219	18 468	
Other livestock	14 290	16 039	
Total livestock	671 557	767 175	727 316
Other cash receipts[3]	27 292	43 235	23 767
Total cash receipts	3 961 534	4 221 844	4 284 178

See footnote(s) at end of tables.

TABLE 9A. FARM OPERATING EXPENSES AND DEPRECIATION CHARGES, 1983 TO 1985, SASKATCHEWAN

	1983	1984	1985
		($ thousand)	
Taxes[a]	86 145	93 037	
Gross farm rent	257 076	227 278	
Wages to farm labour	158 161	169 997	
Interest on indebtedness[b]	416 755	460 413	
Total machinery expenses[c]	685 735	722 629	
Fertilizer and lime	266 705	306 177	
Other crop expenses[d]	231 364	241 704	
Feed[e]	67 036	79 170	
Other livestock expenses[f]	35 425	28 857	
Repairs to buildings[g]	35 621	35 728	
Electricity and telephone	53 722	60 435	
Miscellaneous[9]	238 334	242 720	
Total operating expenses	2 532 079	2 668 145	2 730 644
Depreciation on buildings	61 921	58 825	57 649
Depreciation on machinery	648 823	663 641	670 277
Total operating expenses and depreciation charges	2 242 823	3 390 611	3 458 570
Income of farm operators from farming operations			
Cash receipts	3 961 534	4 221 844	4 284 178
Income-in-kind[h]	38 721	38 643	38 404
Realized gross income (1+2)	4 000 255	4 260 487	4 322 582
Operating & depreciation charges	3 242 823	3 390 611	3 458 570
Realized net income (3-4)	757 432	869 876	864 012
Value of inventory changes	-179 007	-704 750	
Total net income (5+6)	578 425	165 126	

See footnote(s) at end of tables.

TABLE 10. FARM CASH RECEIPTS 1983 TO 1985, ALBERTA

	1983	1984	1985
		($ thousand)	
Wheat[1,4]	1 001 468	967 894	
Oats[1]	22 526	22 525	
Barley[1]	426 652	308 283	
Crop ins., advances, deferments, & WGSA[2]	78 129	199 802	
Rye	14 126	14 656	
Flaxseed	16 556	7 455	
Canola/Rapeseed	322 293	351 764	
Soybeans	0	0	
Corn	0	0	
Sugar beets	27 006	25 162	
Potatoes	23 890	27 815	
Fruits	0	0	
Vegetables	21 462	21 209	
Tobacco	0	0	
Other crops[5]	65 908	61 357	
Total crops	2 020 016	2 007 922	2 004 311
Cattle and calves	1 093 658	1 107 134	
Hogs	201 302	239 560	
Sheep and lambs	5 550	6 231	
Dairy products	209 261	222 929	
Poultry	77 662	85 963	
Eggs	44 646	46 045	
Other livestock	26 940	28 714	
Total livestock	1 659 019	1 736 576	1 709 943
Other cash receipts[3]	26 572	38 079	48 595
Total cash receipts	3 705 607	3 782 577	3 762 849

See footnote(s) at end of tables.

TABLE 10A. FARM OPERATING EXPENSES AND DEPRECIATION CHARGES, 1983 TO 1985, ALBERTA

	1983	1984	1985
		($ thousand)	
Taxes[a]	45 668	47 495	
Gross farm rent	183 539	182 972	
Wages to farm labour	193 868	215 621	
Interest on indebtedness[b]	396 541	460 008	
Total machinery expenses[c]	554 309	573 745	
Fertilizer and lime	315 028	315 658	
Other crop expenses[d]	181 937	196 929	
Feed[e]	200 381	230 839	
Other livestock expenses[f]	116 131	139 357	
Repairs to buildings[g]	45 646	44 505	
Electricity and telephone	55 459	56 654	
Miscellaneous[9]	210 344	209 203	
Total operating expenses	2 498 851	2 672 986	2 708 788
Depreciation on buildings	117 193	111 333	109 106
Depreciation on machinery	580 505	561 387	567 001
Total operating expenses and depreciation charges	3 196 549	3 345 706	3 384 895
Income of farm operators from farming operations			
Cash receipts	3 705 607	3 782 577	3 762 849
Income-in-kind[h]	36 633	37 927	38 954
Realized gross income (1+2)	3 742 240	3 820 504	3 801 803
Operating & depreciation charges	3 196 549	3 345 706	3 384 895
Realized net income (3-4)	545 691	474 798	416 908
Value of inventory changes	-211 522	-371 752	
Total net income (5+6)	334 169	103 046	

See footnote(s) at end of tables.

TABLE 11. FARM CASH RECEIPTS 1983 TO 1985, BRITISH COLUMBIA

	1983	1984	1985
		($ thousand)	
Wheat[1,4]	19 303	18 690	
Oats[1]	2 131	2 104	
Barley[1]	15 306	8 291	
Crop ins., advances, deferments, & WGSA[2]	2 580	9 441	
Rye	389	215	
Flaxseed	0	0	
Canola/Rapeseed	14 640	25 172	
Soybeans	0	0	
Corn	0	0	
Sugar beets	0	0	
Potatoes	19 060	20 680	
Fruits	94 466	94 000	
Vegetables	65 223	69 739	
Tobacco	0	0	
Other crops[5]	74 134	82 746	
Total crops	307 232	331 078	359 072
Cattle and calves	123 122	133 248	
Hogs	46 142	46 320	
Sheep and lambs	1 657	1 836	
Dairy products	217 000	229 036	
Poultry	77 415	86 551	
Eggs	59 970	61 654	
Other livestock	20 023	20 690	
Total livestock	545 329	579 335	585 655
Other cash receipts[3]	45 594	46 133	45 781
Total cash receipts	898 155	956 546	990 508

See footnote(s) at end of tables.

TABLE 11A. FARM OPERATING EXPENSES AND DEPRECIATION CHARGES, 1983 TO 1985, BRITISH COLUMBIA

	1983	1984	1985
		($ thousand)	
Taxes[a]	14 277	14 905	
Gross farm rent	16 038	16 519	
Wages to farm labour	130 898	137 547	
Interest on indebtedness[b]	139 079	149 162	
Total machinery expenses[c]	100 681	106 924	
Fertilizer and lime	25 193	26 175	
Other crop expenses[d]	31 909	32 077	
Feed[e]	109 947	119 512	
Other livestock expenses[f]	22 856	22 934	
Repairs to buildings[a]	12 741	12 652	
Electricity and telephone	19 325	19 988	
Miscellaneous[g]	52 839	56 139	
Total operating expenses	675 783	714 534	716 897
Depreciation on buildings	36 246	34 434	33 745
Depreciation on machinery	72 565	73 052	73 783
Total operating expenses and depreciation charges	784 594	822 020	824 425
Income of farm operators from farming operations			
Cash receipts	898 155	956 546	990 508
Income-in-kind[h]	21 492	21 679	21 948
Realized gross income (1+2)	919 647	978 225	1 012 456
Operating & depreciation charges	784 594	822 020	824 425
Realized net income (3-4)	135 053	156 205	188 031
Value of inventory changes	10 747	3 469	
Total net income (5+6)	145 800	159 674	

See footnote(s) at end of tables.

FOOTNOTES

1) Includes participation payments made by the Canadian Wheat Board directly to producers.

2) Net cash advances on farm-stored grains and deferred grain receipts plus payments under the Western Grain Stabilization Act to producers in Western Canada plus crop insurance payments.

3) Includes receipts from the sale of forest and maple products, as well as dairy supplementary payments, deficiency payments, provincial income stabilization payments, and other supplementary payments made by the federal and provincial governments.

4) Includes payments to producers by the Ontario Wheat Producers Marketing Board.

5) Includes cash receipts from floriculture and nursery, mustard, sunflower, non grain advances, clover and grass, hay and clover, dry beans, dry peas, and miscellaneous crops.

a) Owned land and buildings only.

b) Interest payments on outstanding farm mortgage debts for owned land and buildings, together with interest payments on all other farm business debts.

c) For the farm business.

d) Pesticides, seed, irrigation, twine, wire and containers.

e) Purchases through commercial channels only.

f) Livestock purchases, artificial insemination charges, purebred livestock registration fees and veterinary expenses.

g) Fencing, custom work, heating fuel, stabilization levies, insurance and other services not previously specified.

h) Excludes imputed house rent.

CONCURRENT SESSIONS

CHANGES IN INTERNATIONAL MEAT MARKETS*

A.M. Boswell

Thank you very much, and good afternoon ladies and gentlemen. Basically, I want to generally review the international meat situation in major world markets with respect to production, trade and consumption.

The role played by international trade in meats is less well recognized than is the case with many other agricultural commodities e.g. wheat, grains. This is because of the great variety of forms which trade takes place. Meat is traded both in the form of meat (carcasses, cuts and canned) and live animals. In addition, sales of by-products such as edible offals, tallow and hides are also important components. My comments will be confined to dressed meat production, trade and consumption. In this presentation I do not plan to focus on the discussion surrounding international trade policies in meat and/or respective countries point of view.

In these days, international meat trade is becoming like Newton's third law which says, "for every action, there is an equal and opposite reaction."

GROSS DOMESTIC PRODUCT OECD

At the outset, we are well aware of the role affluence has played in relationship to rising personal incomes in fueling the international demand for meat products through the 1960's and the 1970's. In the 24 countries of the OECD, growth in Gross National Product averaged 3.3% per year through the decade of the 1970's, slowed down to 1.2% in 1981, and for 1982 showed a negative average growth rate of 0.5% (chart 1). Lead by the United States and Japan the average annual OECD growth rate in the GNP increased in 1983-84.

The Canadian economy has also expanded in 1984 benefiting from its close economic links with the United States. I will not go into the factors underlying the changes in the Gross Domestic Product only to point out that the OECD expects a smaller total average increase in 1985 for member countries than compared to the overall increase of 4.2% for 1984.

TOTAL MEAT OUTPUT

Turning to the supply side of the world meat industry, another factor affecting international meat markets is that total world meat output reached record levels in the early 1980's (chart 2). Since the mid-1960's, total world meat output has nearly doubled but the annual rate of growth in the 1980's in total meat production is not matching that of the 1970's.

Through the 1960's and the 1970's, world production of beef and pork steadily increased but during the early 1980's the rate of increase has slowed. During the same period, poultry meat output rose at a much faster rate but sheep meat production has remained relatively flat. As a result the production mix of world meat output has changed significantly during the past two decades from portionately less beef to more pork and in particular more poultry meat.

According to the USDA, total world meat production is expected to continue to slowly expand during the 1980's but the rate of growth will probably not match that of the 1970's. Following a slight drop in 1982, total meat output increased in 1983 and again in 1984 and another small increase may be expected in 1985. So the international meat market during the early 1980's has been characterized by an increasingly over-supplied market at a time when economic conditions become increasingly difficult.

BEEF AND VEAL OUTPUT

World beef and veal production increased sharply from 1965 to the mid-1970's, followed by a gradual decline into the 1980's.

From the late 1970's to the early 1980's, beef output averaged lower in Canada, the U.S., Australia, New Zealand, and a number of smaller producing countries (chart 3). Declining cattle numbers in these countries reflected a long-term cycle in which cattle producers overexpand in response to favourable beef cattle prices and later reduced production as large supplies depress beef cattle prices. The two major beef producing countries in South America have shown opposite beef output trends since the late 1970's, with decreases in Argentina nearly offset by increases in Brazil. World beef and veal output in 1984, compared to 1983, is expected to show a small increase of over 1% with the largest increase in the EEC, of 5% or more and in the USSR by nearly 3%.

One of the more interesting aspects of increased EEC beef, output is that it has been paralleled with no increase in cattle numbers. A large part of the increases in EEC beef output in recent years was due to a major shift away form the slaughtering of calves to retention of these calves for feeding out to mature weights. Secondly, average carcass weights for cattle slaughtered in the EEC, including veal calf slughter, have shown a market increase. This relects the fact that the community as a block has become self-sufficient in the production of high energy ration's for livestock feeding. Further compounding the EEC beef production surplus is a program initiated by the EEC in April 1984 to reduce dairy cow members and thus control dairy milk production.

World production of beef and veal is expected to expand only slightly in the next few years. Herd rebuilding in some of the major producing countries, plus slow demand growth in other area's because of the high price of beef relative to other meats, will keep growth rates in output and consumption low by historical standards in many countries.

*Basis of remarks to the National Agricultural Outlook's Conference.

PER CAPITA BEEF AND VEAL CONSUMPTION

Per capita beef and veal consumption varies widely from country to country depending on income levels, the level of competing meats, the composition of domestic agriculture, cultural patterns and a number of other factors. When all meat is considered, the U.S. currently lead the world in total meat consumption per person while Canada stands fifth.

For many years, the Argentines remained the world's largest beef eaters on a per capita basis, but their 1983 per capita consumption level of 68 kilograms is about equal to their 1965 level (chart 4). Uruguay is now the largest beef eaters per person. In the Oceanic's, particularly Australia, and in the U.S. and Canada per cpaita consumption of beef has dropped sharply since the mid-1970's, reflecting greatly reduced cattle slaughter rates and weaker economic conditions in the early 1980's.

In the EEC-10 countries, per capita consumption of beef and veal at 23.8 kilograms in 1983 accounted for 29% of total meat consumption per person, compared to 43% for pork and 18% for poultry meat. Through the early 1980's beef and veal consumption per person in the EEC-10 has slipped back relative to the sharp increases in the Communities beef production and high intervention stocks of frozen beef. The drop back in EEC beef consumption per person resulted from a depressed economy, stronger competition from competing meats, and in particular high retail beef prices, reflecting EEC cattle pricing mechanisms, relative to those of pork and poultry.

Since 1980, per capita consumption of beef has generally declined in all EEC countries but Italy. France has the highest consumption of beef per person within the Community and Denmark the lowest.

In the USSR, per capita consumption of beef and veal has remained relatively flat through the past few years. Beef has the highest per capita consumption level of all meats in the USSR. In Japan, per capita beef and veal consumption is below both pork and pultry and in 1983 was only 5.3 kilograms per person, compared to 5.1. in 1980 and 3.0 kilograms in 1970.

World beef consumption reached its peak about 1975. In 1960, the world consumed about 25 million tons of beef. By 1975, that total reached a "peak" of about 40 million tons. In 1980, this quantity remained at about 40 million tons and no significant changes have occurred in recent years.

BEEF AND VEAL TRADE

Through the past decade international trade in beef and veal has undergone substantial changes. A little history will set the tone for where international beef and veal trade is today.

For many decades, fresh or frozen beef that enters world trade originates in the temperate, rangeland countries of the Southern Hemisphere and moves to highly populated industrial countries of the Northern Hemisphere. As a rule, Oceania supplies North America and Japan while South American beef is shipped mainly to Western Europe. This trade pattern also reflects the foot and mouth disease-free zone areas in North America, Oceanic and Japan.

The major change in beef trading patterns that appears to have taken place in more recent years is that the EEC, historically a major beef importer, whose export policy enables it to remain competitive, has now become one of the world's leading exporters of beef and veal (chart 5).

Exports of beef and veal from the Community have more than doubled since the late 1970's to about 700 thousand tons in 1984. During the same period the Community's imports of beef have dropped back.

Since the mid-1970's exports of dressed beef and veal from the Oceanic's, primarily Australia, and also from Argentina, have dropped sharply and in 1984 will account for less than 40% of world beef exports compared to nearly 60% in the late 1970's (chart 6).

Argentina, however, has recently eliminated its beef export tax which should make that country more competitive in world markets.

In contrast, exports from the EEC and Brazil, primarily to the Soviet Union, Middle East countries, and North Africa, have increased dramatically through the early 1980's and in 1984 will account for nearly 40% of world beef exports. With a sharp contraction of beef imports in 1983-84 in the two important markets - the Soviet Union and the Middle East - together with record beef production and intervention stocks in the EEC there has been great pressure in the Community to export elsewhere.

The U.S. account for only about 3% of world beef exports but its share is growing mainly because of increased exports to Japan. Nearly 70% of U.S beef exports go to Japan - about 6 to 8% to Canada. The U.S. has increased its share of Japan's imported beef market from 8% in 1977 to well over 25% in the early 1980's. U.S. beef exports to Japan are basically high quality fed beef.

As for beef and veal imports, the U.S. is the largest market for foreign beef but imports have levelled off in recent years as related to agreements with some major exporters under the U.S. Meat Import Law to control exports to the U.S. Imports of beef and veal into the EEC, have generally declined since the 1970's and in the USSR have levelled off in the past two years.

Beef imports into Japan, the fourth largest import market have gradually increased in recent years and on the basis of recent consultations beef imports into Japan can be expected to rise in the next few years. While information on beef and veal imports into the Middle East countries are limited, the region has recently been one of the largest beef importers in the world.

PORK OUTPUT

World pork output levels (excluding the Peoples Republic of China) rose sharply through the 1970's but output levels have changed very little through the early 1980's. World pork output in 1984 is expected to be up slightly from 1983 and another small increase is expected for 1985.

The Peoples Republic of China which is the largest producer and consumer of pork in the world slaughter over 200 million hogs a year compared to about 110 million in North America and over 125 million in the EEC-10 countries. The European Community followed by North America and the USSR are the other major pork producing areas (chart 7).

In North America, 1984 pork output will be below the high 1980 record level and the 1983 level because of decreases in the U.S., and little change may be expected for 1985. Pork production in the USSR is expected to show an increase in 1984 and again in 1985. Production of pork in the community in 1984 remains about the same as in 1983 but a small increase is also expected in 1985.

Pork production in Japan has increased at an annual rate of nearly 10% in the last 20 years but hog slaughter in the past three years levelled off at about 19.5 million head. Through the past two decades, Japan has relied heavily in imported feedstuff, primarily from the U.S., to increase its swine production and has relied heavily on pork imports to meet consumer demand.

Japanese pork production for the year 1984 is expected to show only a small year-to-year increase and another small increase is expected in 1985.

In 1984, Denmark's hog slaughter at around 15.2 million head was about the same as in 1983, but in 1985 an increase may be expected because of improved hog prices and tight supplies for export markets in 1984.

In Canada, the annual growth rate in pork output remained relatively stationary from 1965 to 1977 but increased sharply by about 8% per year from 1978 to 1984.

World pork production is likely to grow only marginally in the next few years and will continue to be influenced directly by world coarse grain production and trade.

PER CAPITA PORK CONSUMPTION

In many countries, per capita pork consumption is continuing to show some relatively small gains, but growth appears to have levelled off since 1980 compared to the dramatic increases in the 1970's (chart 8). In 1980, world pork consumption (excluding China) reached 36.4 million tons. Since that time consumption has not exceeded the expected 1984 quantity of 37.4 million tons and is not expected to be much higher in 1985. In the EEC-10 countries, pork has the highest per capita consumption of all meats reaching 34.6 kilograms in 1983. The largest consumers of pork in the Community are Germany (50 kg) and Denmark (47 kg). Only in Italy and Greece does beef consumption per person slightly exceed pork.

In both Canada and the U.S., per capita pork consumption has fluctuated widely in conjunction with the hog production cycle and, for 1983 averaged close to 30 kilograms per person in both countries, compared to a much wider spread in earlier years. Pork remains the second most important meat consumed in Canada whereas in the U.S. pork and poultry are currently about equal.

In the USSR, pork consumption rose rapidly through the 1970's levelled off in the early 1980's but increased in 1983. In Japan, per capita pork consumption also increased sharply during the 1970's but its growth levelled off about 1980. Supported by increased imports, pork is the largest meat consumed in Japan and at 13.8 kilograms in 1983 accounted for about 43% of total meat consumption (excluding fish) in that country. Fish consumption at over 30 kg per person is the largest meat consumed in Japan. This compared to per capita fish consumption level of over 6 kg in Canada and less than 6 kg in the U.S. On a world basis, per capita pork consumption is highest in some Eastern European countries but since 1980 consumption has also levelled off and even declined in some of the Eastern block countries. On the other hand, the USSR, Japan and some other countries in the Far East continue to gradually increase consumption levels for pork. For several countries, pork consumption trends, more so than for beef or poultry meat, tends to follow production trends.

PORK EXPORTS

World exports of pork increased through the 1970's but in 1982 decreased for the first time in 15 years. Much of the decline reflected slightly lower global output (excluding China), lower Danish exports because of swine disease problems, and lower pork imports to Japan. However, world exports of pork rose slightly in 1983 and 1984 and another small increase is expected in 1985.

Pork exports from Eastern Europe, primarily to the USSR and Western Europe, are the largest in the world and not withstanding lower exports from Poland have been generally rising in more recent years (chart 9). Exports from the EEC to third world countries dropped in 1982 reflecting lower Danish exports but in 1984 increased with the re-entry of Denmark into world markets.

Denmark has regained its share of Japan's pork market in 1984 since it was permitted by the Japanese Government to export pork in September 1983 after it had eradicated foot-and-mouth disease following an outbreak in 1982. Denmark is also the largest suppliers of canned pork to the US and in 1984 frozen pork products from Denmark to the U.S. reached record levels. Pork exports from North America have levelled off with increases from Canada offsetting decreases in the U.S. On a country basis, Canada stands fifth in the world as a pork exporter.

I might add here that China is the largest producer and consumer of pork in the world. Adding China would raise world pork production and consumption above world production/consumption of beef and veal. With China's close proximity to the large pork markets in the Far East, China also stands as a potential international exporter of pork.

The world major importers of pork are the United States, which takes over 35% of world pork imports, followed by Japan at about 25%, the EEC and the USSR at over 10% each.

POULTRY MEAT OUTPUT

While world beef and pork output has remained relatively flat in the early 1980's, poultry meat output has risen, although the rate of growth in poultry meat in recent years is not as great as through the 1970's. Poultry meat production accounted for about 16% of total world meat output in 1975; by 1983 it accounted for 22%. Total world output of poultry meat in 1984 will be over 2% above 1983 and for 1985 another small increase can be expected.

North America is the largest producer of poultry meat in the world followed by the EEC and the Soviet Union (chart 10). On a country basis, the US is by far the largest followed by the Soviet Union, Brazil, France and Japan.

World production of poultry meat is expected to expand more rapidly than red meats. Poultry meat production requires fewer pounds of feed per pound of meat produced than either pork or beef production and thus are strong competitors with other meats for grain and protein meal.

PER CAPITA POULTRY MEAT CONSUMPTION

Since the mid 1960's, world poultry meat consumption has nearly tripled. However, the year-to-year rate of increase in world consumption through the early 1980's has slowed down. The world consumed about eight million tons in 1965, about 15 million in 1974 and is expected to consume about 24 million tonnes in 1984.

Notwithstanding high poultry meat consumption levels per capita in some Middle East countries, namely Israel, the highest in the world, the U.S. is the largest total consumer of poultry meats (chart 11). U.S. consumption of poultry meat per person at nearly 30 kilograms in 1983 was 60% above 1965 and is currently about equal to per capita pork consumption in that country. In Canada, poultry meat consumption per person increased through the 1970's, levelled off in the early 1980's, with the 1983 level at nearly 23 kilograms per person. Canadian poultry meat consumption was higher in 1984 and a further increase may be expected for 1985 but it remains well below the United States.

Throughout the past two decades per capita consumption of poultry meat has nearly doubled in the EEC and at 14.3 kilograms in 1983 remained the third most important meat consumed in the Community.

During 1982-83 consumption of poultry meat in the EEC however showed virtually no change. Consumption of poultry per person in the EEC is highest in France and Italy and lowest in Denmark and West Germany. With the exception of Poland, most countries in Europe and the USSR recorded small increases in poultry meat consumption during the early 1980's. While we do not have precise data for the Middle East, the growth in imports of poultry meat indicate substantial consumption increases although poultry meat trade has levelled off in 1982-83.

In Japan, per capita poultry meat consumption at 11.5 kilograms in 1983 was about two kilograms below pork but nearly six kilograms above beef. In Taiwan, Hong Kong and the Republic of Korea consumption of poultry meat has also increased.

For several countries, rising per capita consumption levels of poultry meat have been supported by rising imports of poultry meat.

In many countries of the world, per capita consumption of beef, pork and poultry meat is basically associated with three major factors - per capita income, relationships among the retail prices of meats and per capita meat supply including foreign trade. The lower relative price of chicken meat compared with red meats has contributed to some substitution of poultry for red meats, particularly in the recessionary/deflationary period of the early 1980's.

To sum up meat consumption, world beef consumption has levelled off, pork consumption is only creeping upward and poultry meat consumption is not increasing as fast as five years ago.

POULTRY MEAT EXPORTS

Through the 1970's world poultry meat exports rose sharply but since 1981 world exports have declined even though the EEC, Hungary and Brazil continue to subsidize exports (chart 12). While world export levels have recently slipped they continue to average well above the export levels of the 1970's. The EEC is the largest exporter but on a country basis the largest exporters are France, Brazil, the Netherlands, United States and Hungary. The major importers of poultry meat is the Middle East, the USSR, Japan and Hong Kong. The Caribbean region is also an important importer of poultry meat.

U.S. exports of poultry meat are to several countries of which Japan is the largest. Brazil and the EEC are major exporters of poultry meat to the Middle East and the USSR. Hungary exports about as much as it consumes, largely to the USSR and also the Middle East.

The recent lower level of poultry meat imports in the Middle East reflect the fact that some OPEC countries entered a period of reduced foreign earnings from oil in the early 1980 together with increased poultry meat production operations in some Middle East countries.

CANADA'S RELATIVE POSITION

Canadian exports of livestock and red meat products have become an increasingly import export item in recent years. For 1983, Canada's exports of dressed pork, live hog and pork offals combined, totalled nearly $550 million (chart 13). This would account for over 30% of Canada's farm cash receipts from hog production and the third most important agricultural export commodity from Canada. Canada's pork imports in the 1983, totalled only $48 million for a net trade balance of $500 million. Canadian exports of dressed beef, live beef cattle, and beef offals combined totalled $343 million in 1983, and imports $281 million.

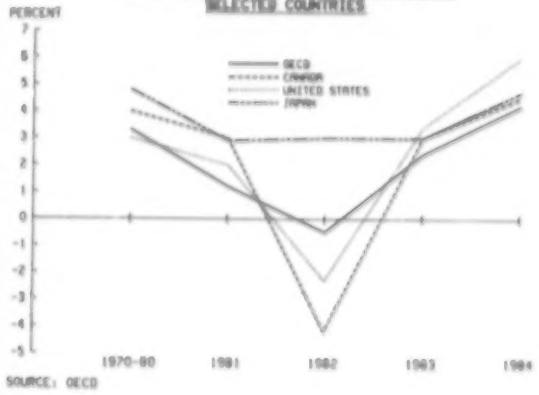
Not included in the beef export trade is the exports cattle hides which totalled $120 million in 1983 and tallow exports $71 million. For 1984, Canada will again be a large net exporter of pork and should have positive overall trade balance for beef products and live cattle. You will notice Canada also has a positive trade balance for dairy but is a small net importer of poultry products.

SUMMARY

The Canadian meat industry operates on and is increasingly influenced by a worldwide meat economy. While the international meat picture looks a bit pessimistic, consumption and trade is still very high by historical standards and the potential for increase is still there. A major factor will be international economic conditions which became weak in the early 1980's. In the international market, no food is more sensitive to economic conditions than meat, in particular beef. Improved world economic conditions would improve the overall demand for meat products and help reduce some of the trade distortions which became so apparent since the mid 1970's.

[CHART 1]

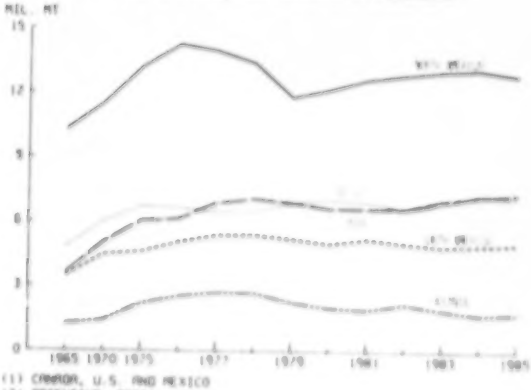
ANNUAL CHANGE IN GROSS DOMESTIC PRODUCT
SELECTED COUNTRIES



SOURCE: OECD

[CHART 2]

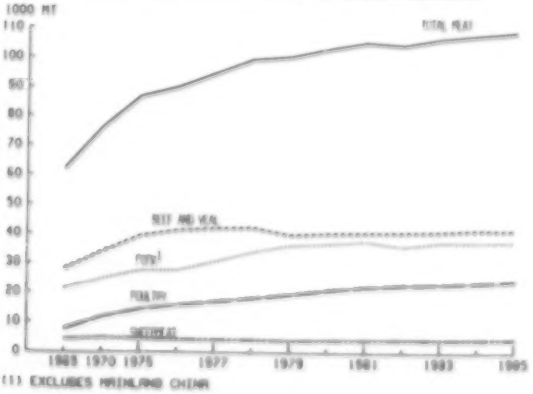
BEEF AND VEAL OUTPUT - MAJOR PRODUCERS



(1) CANADA, U.S. AND MEXICO
(2) ARGENTINA, BRAZIL

[CHART 3]

WORLD MEAT PRODUCTION - 50 SELECTED COUNTRIES



(1) EXCLUDES MAINLAND CHINA

[CHART 4]

PER CAPITA BEEF AND VEAL CONSUMPTION

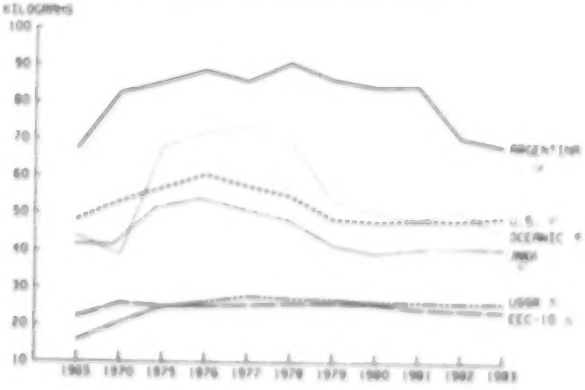
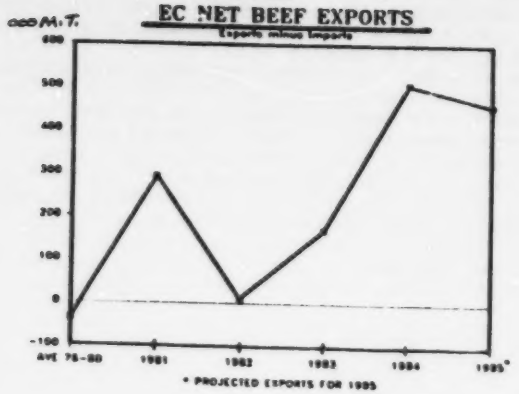


CHART 5

EC NET BEEF EXPORTS

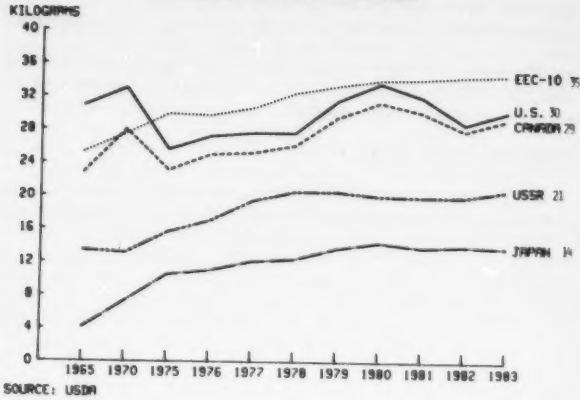
Exports minus Imports



* PROJECTED EXPORTS FOR 1985

CHART 8

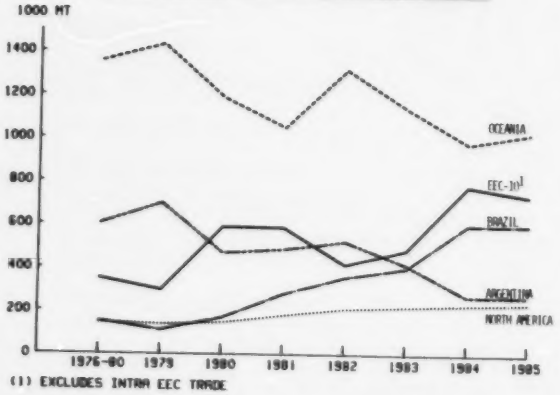
PER CAPITA PORK CONSUMPTION



SOURCE: USDA

CHART 6

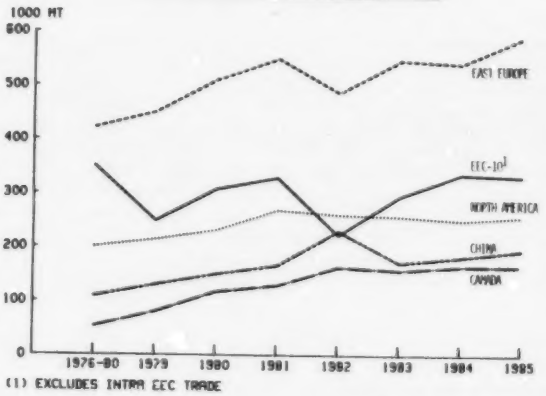
BEEF AND VEAL EXPORTS - SPECIFIED COUNTRIES



(1) EXCLUDES INTRA EEC TRADE

CHART 9

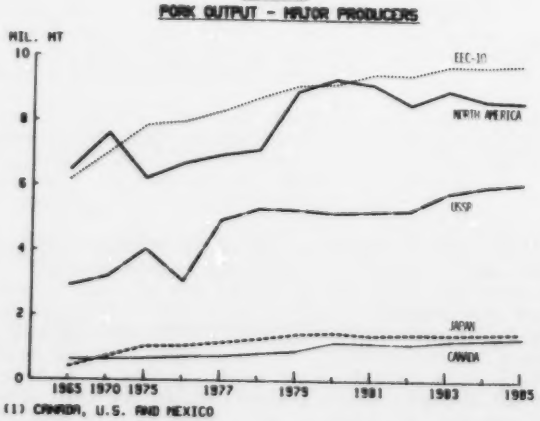
PORK EXPORTS - SPECIFIED COUNTRIES



(1) EXCLUDES INTRA EEC TRADE

CHART 7

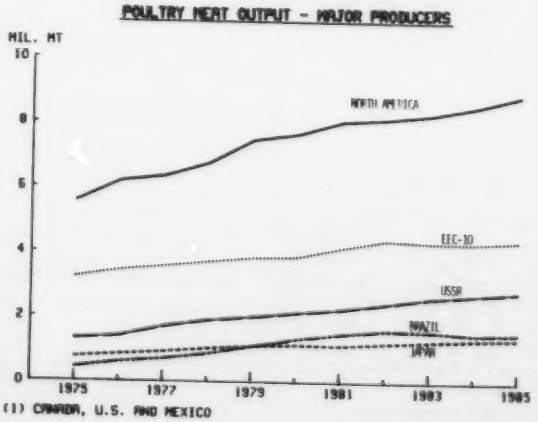
PORK OUTPUT - MAJOR PRODUCERS



(1) CANADA, U.S. AND MEXICO

CHART 10

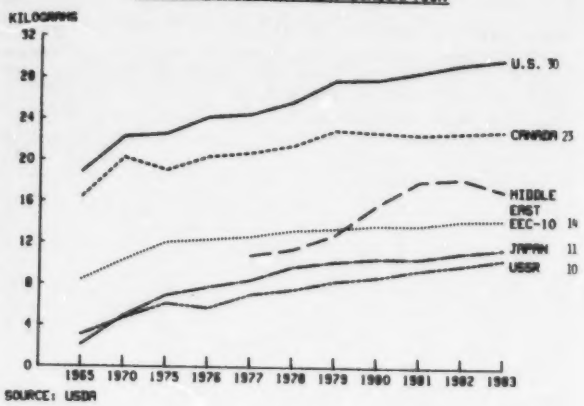
POULTRY MEAT OUTPUT - MAJOR PRODUCERS



(1) CANADA, U.S. AND MEXICO

CHART 11

PER CAPITA POULTRY MEAT CONSUMPTION



SOURCE: USDA

CHART 12

POULTRY MEAT EXPORTS - MAJOR EXPORTERS

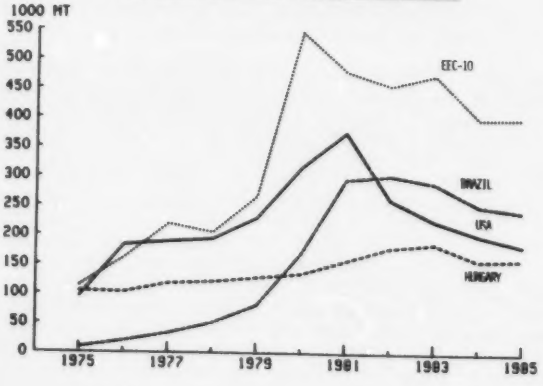


CHART 13

CANADA: TOP SIX AGRICULTURAL EXPORTS

	EXPORTS			IMPORTS	
	1982 Mil.$	1983 Mil$.	RANK	1982 Mil.$	1983 Mil.$
WHEAT	4,290	4648	1	-	-
BARLEY	886	815	2	-	-
PORK & HOG	556	550	3	44	48
RAPESEED	534	533	4	-	-
BEEF & CATTLE	364	343	5	265	281
DAIRY & CATTLE	328	294	6	98	99
POULTRY MEAT & EGGS	41.4	39.8	-	74.7	78

SOURCE: STATISTICS CANADA, OTTAWA

U.S. LIVESTOCK AND POULTRY OUTLOOK

James E. Nix

The U.S. livestock and poultry industries are made up of many very diversified types of operations. Meat-producing operations are located in every State, and the regional concentration depends on the type of enterprise. Many livestock farms also have other agricultural enterprises, particularly crops, with cattle and hog production the secondary enterprise. During 1979-83, cash receipts from marketings of red meat and poultry averaged $50.4 billion per year -- 36% of all cash receipts from farm commodities. Cash receipts from cattle and calves alone accounted for 22% of the receipts from all commodities; hogs made up 7%; and broilers 3%.

These operations depend on a wide variety of feed sources. Some cattle raisers depend almost entirely on forages and use little, if any, concentrate feeds. Others, such as commercial feedlots and broiler firms, depend almost entirely on purchased feedstuffs. Many other cattle and hog operations produce their own feed, including forages and/or concentrates. There are no Government programs to control production or support prices for meat producers, but they are directly affected by programs that affect feed supplies and prices. They also are affected by policies, both domestic and foreign, that impact on meat trade.

U.S. total meat production has averaged 53-55 billion pounds a year since 1980, up from 51.5-52 billion in 1976-79 and 46-49 billion in 1970-75. As total meat production has trended upward, there have been year-to-year variations in the level of output by type of meat, and there also has been a long term trend toward more poultry in the mix. The high levels of output a few years ago came when the economy was weak and consumer purchasing power was reduced. Since there are no programs to support prices, the combined slowing economy and large meat supplies resulted in low producer prices. The economic recovery has improved the demand for meat, and livestock and poultry prices have strengthened despite still large meat output. Prices and the general health of agriculture, however, have not improved enough to prevent producers from reducing their inventories in hopes of attaining higher prices once production is reduced.

CATTLE

There was a sharp increase in the U.S. cattle and calves inventory in the early 1970's -- it reached 132 million on January 1, 1975. A major liquidation during the late 1970's reduced the inventory to 110.9 million on January 1, 1979, a 16% decline from the 1975 peak. A rebuilding of the inventory brought the total back to 115.6 million at the beginning of 1982. Since then the inventory has slipped lower. This year there probably has been a larger decline than during the last 2 years. The indicated calf crop for 1984 is down from last year's level, and there has been a heavy cow slaughter this year. Cow slaughter was large in the last half of 1983, and for all of 1984 it will be about 12% above the year-earlier level. This year's cow slaughter will be about 17.5% of the beginning of the year inventory -- a level that when viewed alone indicated liquidation. But, heifer slaughter also has been relatively high this year -- down only slightly from the year-earlier level during the first 10 months. Placements of heifers on feed have been up sharply the last several months suggesting limited retention for cow herd replacements. The high cow slaughter and large number of heifers going on feed suggests that the cow inventory at the beginning of 1985 will be down from a year earlier. This is likely to result in a decline in the 1985 calf crop. With feed costs likely to be down in 1985 and cattle prices a little higher, beef producers are expected to halt herd liquidation. Even if they do halt liquidation and begin to rebuild, it may mean that they do no more than maintain the January 1, 1986 cow inventory at the 1985 level. This could result in the 1986 calf crop being about the same size as a year earlier. Thus, it may be 1987 before we see the total cattle and calves inventory increase.

Several factors have contributed to the high cow slaughter and the apparent low level of heifer retention. Droughts in some regions, and particularly in Texas, in 1983 and 1984 sharply reduced forage supplies and caused some producers to have to sell part of their breeding stock.

Low returns to cow-calf producers and general financial problems also contributed to the high cow slaughter. Feeder cattle prices declined from 1979 through 1983 and showed only limited gains this year. Net returns for cow-calf operations fell sharply in 1981, 1982, and 1983. The decline was probably uniform for different size operations. From 1981 through 1983, the operations with less than 100 head lost money as did medium-size operations (100-499 head) in 1983. This probably did not change for the small operations in 1984. Larger operations (greater than 500 head) were able to meet cash expenses during 1981-83, but with a much smaller net margin than they had earlier. Returns to the medium-and-large-size operations may have exceeded cash expenses this year. These low feeder cattle prices and poor returns to the cow-calf enterprise caused some producers to sell breeding stock. The general poor financial condition of the agricultural sector also contributed to the liquidation of beef cattle inventories this year.

In the West, the beef cow enterprise is the primary source of income for most operations that have beef cattle. This contrast with the Eastern United States where several other enterprises are generally included on a farming operation with beef cows. The beef cow enterprise is often a supplementary enterprise with crops the primary source of income. In 1980, corn for grain was produced on 36% of the beef cow farms in the South and 46% of those in the North Central region. Soybeans were produced on many of the beef cow farms. A significant portion of the farms in both the South and the North Central also had a hog enterprise. Several other enterprises were also a part of the farming operations. With returns from many of these other enterprises reduced the last few years, many farming operations have been severely strapped for cash to meet current expenses. The beef cow represents an asset that can quickly be converted to cash, and many producers seem to have sold cows for this purpose.

While this may have saved the overall farming operation for some farmers, it probably means that they will either have no beef cows or that the size of their herd is substantially reduced.

There has been a substantial reduction in the acreage of pasture and rangeland during the last 15 years. Cropland used for pasture declined 6% from 1969 to 1974, another 8% from 1974 to 1978, and another 11% from 1978 to 1982. During these same time periods, permanent grassland pasture and range declined, but the percentage declines were much less than those for the cropland used for pasture. The poor returns to the beef cow enterprise during many years of the last decade and a half have helped hold down cattle inventories and the demand for forage land. Also, the increased demand for crop products in the 1970's, particularly for the export market, took some land from grazing for crop production. Even with the reduction in acreage for grazing, there probably still is sufficient forages produced to support a larger cattle inventory than we currently have. Since grazing of cattle is the most productive use of much of this land, there probably will be some growth in the cattle inventory during the next several years, particularly if returns to beef cow-calf producers improve during the next few years.

The number of cattle feedlots has been trending downward for many years. In 1965, there were over 150 000 feedlots in the 13 major cattle feeding States. By 1975 the number had declined to around 92 000, a 39% drop. From 1975 to 1983 there was another 30% decline. The decline in numbers has come from the "farmer feeder" lots (those with less than 1000 head capacity). There has been some increase in the number of "commercial" lots (those with a capacity of 1000 head or more). In 1965, commercial feedlots accounted for only 1% of all feedlots -- in 1983 they accounted for 3%.

Fed cattle marketings are up from the levels of the late 1960's, but with exception of 1975 recent levels have not been much different from levels of the 1970's. Marketings by the farmer feeders have declined significantly while those by the commercial feedlots have risen. In 1965, commercial feedlots accounted for 46% of the fed cattle marketings -- in 1975 they accounted for 68%, and last year the percentage was up to 78. This year fed cattle marketings will be up slightly from the 1983 level. Commercial feedlots probably will account for an even larger share of the total than in 1983. With the big reduction in corn production in 1983 and the runup in prices, cattle feeding in the Corn Belt region dropped sharply this year. This is the region with most of the farmer feeder operations. Cattle feeding expanded in the Plains region where wheat was favorably priced. With this year's larger corn crop and lower feed prices, cattle feeding in the Corn Belt probably will increase in 1985. But Corn Belt cattle feeding is not likely to return to the level of the last few years in 1985.

Beef production is up about 2% this year, but it is likely to be down in 1985. There probably will be a small rise in fed beef production but nonfed output should drop, more than offsetting the larger fed beef. Cow slaughter is expected to decline from this year's high level, and nonfed steer and heifer slaughter should also be lower. A tighter feeder cattle supply should contribute to the lower nonfed steer and heifer slaughter if pasture and range conditions are favorable next year. With the expected decline in the 1985 calf crop, feeder cattle supplies would continue to tighten in 1986. This would hold down the level of cattle feeding, perhaps to slightly below the 1985 level. Nonfed beef production should continue lower in 1986 resulting in further declines in total beef output. Rebuilding of the cattle inventory during this period would also hold down beef output. But, if inventory rebuilding does occur during the next 2 years, it could lead to increases in beef production by sometime in 1987.

The lower beef output during the next few years should result in somewhat higher cattle prices. Large total meat output, however, will constrain price increases. Returns to beef producers probably will not be favorable enough to attract much new capital investment.

HOGS

Pork production has fluctuated within a rather narrow range during the last 30 years. The location of production has changed little during this period. Currently more than 78% of production is in the North Central region. Southeastern producers make up about 16%.

U.S. pork production is shifting to larger size operations. In 1978, almost 60% of the farms selling hogs sold between 1 and 99 head, while only 3% sold 1000 or more. The smaller size group accounted for almost 10% of the hogs sold, while the larger operations accounted for about a third. By 1982, just over half of the farms selling hogs were in the 1-99 head size group and accounted for 5% of the hogs sold. Almost half of the hogs sold in 1982 came from operations selling 1000 or more.

A large percentage of the hog farms also have other livestock enterprises. In 1980, only 28% of the hog farms reported having no other livestock raised. The hog enterprise in combination with some type of beef cattle enterprise was most prevalent. The larger hog operations tend not to have another livestock enterprise.

A significant percentage of the grain fed to hogs is produced on the farms where it is fed, but the percentage declines as the size of the hog enterprise increases. In the North Central region, almost 90% of the grain fed is produced on the farm where fed if the hog enterprise is less than 5000 head. For those with 5000 or more, 53% of the grain is produced on the farm where fed. In the Southeast which is a grain deficit region, a smaller percentage of the grain fed is produced on the farm where fed.

Most slaughter hogs are sold directly to the packer. In 1980, direct sales to packers accounted for 59% of the hogs sold. Direct sales to packers tend to be greater for the larger hog enterprises. Less than 10% of the hogs sold went through regular auction markets and the smaller operations tend to be the largest user of this marketing outlet. Terminal markets accounted for 18% of the hogs sold with little differences noted among the sizes.

The larger hog operations have a cost advantage over the smaller producers. They make more efficient use of facilities and labor. Also,

their feed costs per cwt of hogs sold are lower. With these advantages, the shift to larger hog operations is likely to continue. The larger operations which have a high capital investment tend to be more stable in their production than the smaller operations which have a tendency to get in and out of production as net returns fluctuate. The continued shift to larger operations probably will mean less fluctuation in the level of pork production in the absence of large exogenous shocks.

U.S. pork production is down this year and will likely remain below year-earlier levels through at least mid-1985. The sharply higher feed costs in 1983 and part of 1984 caused hog producers to reduce the breeding inventory, resulting in the lower pork output. With this year's larger grain crop and lower feed prices, production cost will be down. The lower pork production should also mean higher hog prices. Thus, profitability for hog producers should improve and lead to a turnaround in pork production. In the last half of 1985 pork production could rise above year-earlier levels. Then if feed costs remain below 1983 and 1984's level, we will probably see pork output continue to increase for at least a couple of years. The increased pork output, however, will probably result in weakening hog prices, particularly since total meat output is likely to be large.

POULTRY

U.S. poultry meat production has shown a strong upward trend for many years with both broiler and turkey production sharing in this increase. Egg production, however, has not shown the upward trend seen for poultry meat production. A growth in demand for broilers and turkeys has supported the higher output while a declining demand for eggs has held down egg output. All sectors of the poultry industry have shown large gains in efficiency.

The broiler industry is a vertically integrated industry. Essentially all of the production comes from the vertically integrated firms. Broiler production totaled about 925 million pounds in 1960, and the wholesale price of broilers at that time was about 30 cents per pound. By 1970, production had almost doubled, and the wholesale price was a little over 26 cents per pound. Production rose 66% from 1970 to 1980, and prices were up to almost 47 cents. Inflation was a contributor to the rise in broiler prices. Production continues to expand with this year's output up 4-5% from 1983's level. Broiler prices have been strong this year and returns favorable to producers despite high feed costs and an increase in broiler output. Production is expected to continue to expand next year. Future levels of production probably will continue to show an upward trend, but the magnitude of the increases is uncertain. Total meat supplies are likely to be large during the next several years, and the competition for the consumer dollar will be strong. However, demand for broilers probably will continue to increase, lending some support to broiler prices. Even so, the large total meat supplies could put enough downward pressure on broiler prices to slow expansion. Past gains in efficiency also have helped support the increases in broiler production. While further gains in efficiency are expected, they are not likely to match those of the past. The feed required per pound of broiler meat has already dropped to around 2 pounds, down from around 2.5 in 1960. Labor used to produce broilers was only 8 minutes (about 0.1 hours) per 100 pounds of broilers proudced in 1976-80, down from 5.1 hours in 1945-49 and 1.3 in 1955-59.

U.S. turkey production totaled about 948 million pounds in 1960. In 1970, production totaled almost 1.6 billion pounds, up 65% from 1970 and by 1980 it had risen almost 50% from the 1970 level. Wholesale prices for 8-16 pound young hens stayed mostly in the mid-to-upper 30 cents per pound range during the 1960's and until the sharp runup in all livestock and poultry prices in 1973. Through the rest of the 1970's prices fluctuated from the high 40's to the high 60's. Production continued to rise in the early 1980's but, this year's output may be down slightly from a year ago. High feed costs squeezed producer returns and they held back on production this year. Turkey prices have been strong in recent months and with feed costs down, producers are taking steps to increase output. Production likely will be up in 1985, but the larger output probably will pressure prices and squeeze returns by late in the year. This would likely slow gains in output during the following year or two. Gains in production efficiency in turkey output have been similar to those for broilers. A little over 3 pounds of feed were required per pound of meat produced in 1980, down from over 5 pounds in 1960. Labor per 100 pounds of turkey meat produced was about 0.4 hours in 1976-80, down from 13.1 in 1945-49 and 4.4 in 1955-59.

U.S. egg production totaled about 5.3 billion dozen in 1960. Since then production has fluctuated from that level up to a high of around 5.8 billion. Per capita consumption of eggs, however, has declined as the demand for eggs has eroded. In 1960, per capita egg consumption was 320.5 eggs. It declined to 273.2 in 1980, and last year consumption was about 261 eggs per person. Much of the decline in demand is probably associated with changing eating patterns and consumer preferences, that is, lighter breakfasts and consciousness of diets. The popularity of breakfast in many of the fast food restaurants might help to stabilize the demand for eggs during the next few years. Egg production is expected to be up in 1985, but this higher output will pressure prices and squeeze producer returns. If demand is strong enough to support prices at levels that will give producers a profit, egg production may increase slightly during the next few years. Gains in output, however, may not be any more than population growth and per capita consumption could be even lower than last year's 261 eggs. Further gains in production efficiency would also help to hold production up in the face of a weakening demand.

CONSUMPTION

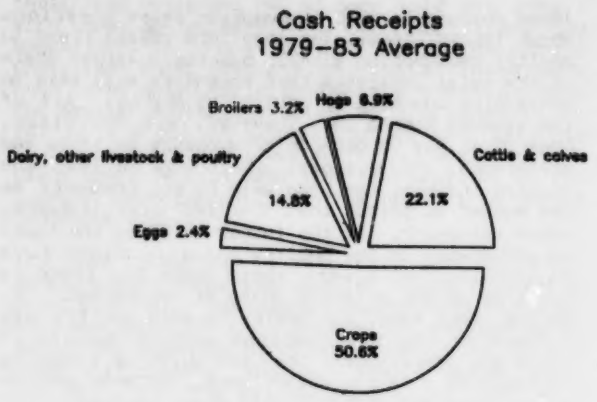
Per capita meat consumption showed a strong upward trend during the 1960's. The upward movement in per capita consumption slowed markedly during the 1970's. In 1960, per capita consumption of total red meat and poultry on a retail weight basis stood at 168 pounds. By 1970 it had risen to 200.1 pounds, a 19% increase. The total for 1980

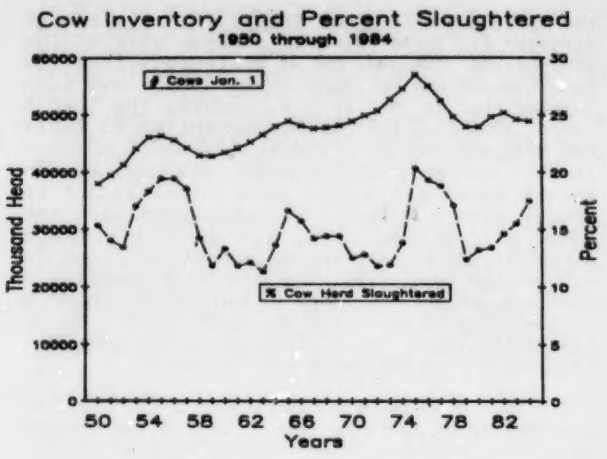
was 208.3 pounds, up 4% from 1970. Looking at averages for 5-year periods removes some of the year-to-year changes, but it still shows that the magnitude of the increase in the 1960's was much greater than in the 1970's. During the last 5 years (1980-84), per capita consumption of total red meat and poultry averaged about 207.5 pounds. This is probably near the maximum that we can expect total per capita meat consumption to attain. There probably will be years when the total will exceed this, but in those years livestock and poultry prices probably will not be high enough to give all segments of production a positive net return. This in turn would trigger a decline in production for at least some type of meat which likely would lower per capita consumption during the following year or years.

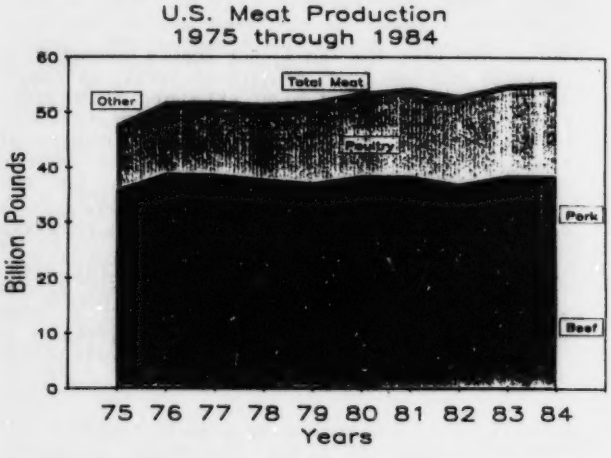
There have been some significant shifts in the consumption of meats by type. Some of the changes have been triggered by an over building of breeding inventories that later resulted in a sharp liquidation and an increase in meat production and consumption. This was partially the case in the mid-1970's with the cattle industry. Other changes have been caused by sharp changes in feed costs. For example, in 1975 pork production dropped to a very low level after producers sharply reduced their breeding inventories. This sharp cut in production was largely in reaction to high feed costs. Other changes in per capita consumption have been of a longer term nature. Poultry consumption has risen from an average of less than 37 pounds in 1960-64 to almost 64 pounds in 1980-84. This growth has been relatively steady with only a few years showing a year-over-year decline. Pork consumption, on the other hand, has been relatively steady since 1960, varying from a low of 56 pounds in 1975-79 to a high of 63.1 in 1980-84. Beef consumption has shown the widest swings. In 1960-64, per capita beef consumption averaged 68 pounds. It rose to a high of 87.9 pounds in 1975-79 but has dropped back down to under 78 pounds for 1980-84. The 1980-84 average is also below the 1965-69 level.

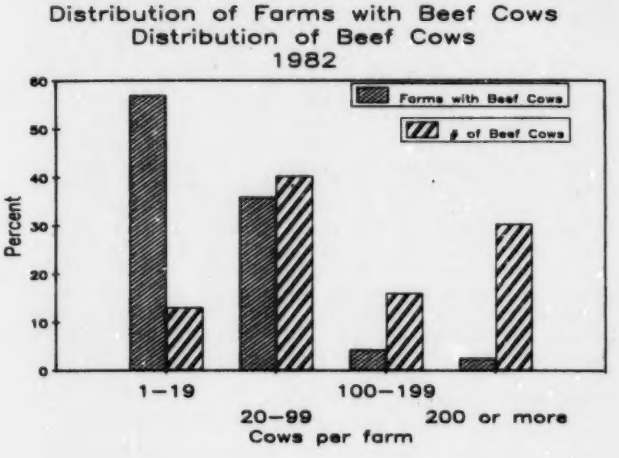
These changes in meat consumption raise questions about future trends. The long term upward trend in poultry consumption with it gaining a larger share of the total indicates that consumers will take an increasing quantity of poultry products. All of the reasons behind this, however, are not clear. Some of it may be because of a change in taste and preference, while a part of it may be that the poultry industry has been able to put products on the market at prices that the red meat industry could not match. If the latter is true, the gains in efficiency in the poultry industry might have to continue at a very rapid pace for them to continue to get a larger share of the market. If, on the other hand, the shifts to more poultry are because of dietary concerns and/or changes in taste and preferences, then the shift is likely to continue at a fairly steady pace. The weak economy a few years ago probably held down consumer purchases of the higher priced red meats more than it did poultry products. If this is true, today's stronger economy should help the demand for red meats. As consumer incomes continue to grow during the next few years, this could help red meats regain a little of the total share.

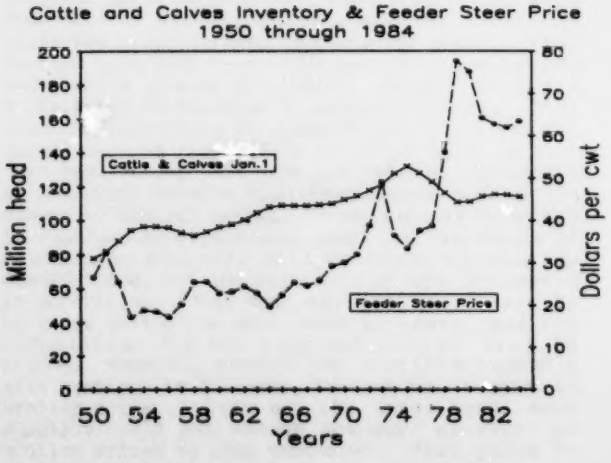
During the next few years, per capita consumption of total red meats and poultry is likely to remain at or near the record high attained this year. Beef will drop some because of the reduction in output that will result from the liquidation of the inventory this year. The amount of the decline will partly depend on whether or not the demand for beef is actually eroding. Pork consumption will rise as pork production recovers during the next few years. The amount which it rises will partly depend on the demand for pork. If pork demand does not increase, then hog prices will not strengthen enough to support a large increase in production. Poultry consumption is likely to continue to increase, but the gains may slow from those of the past year.

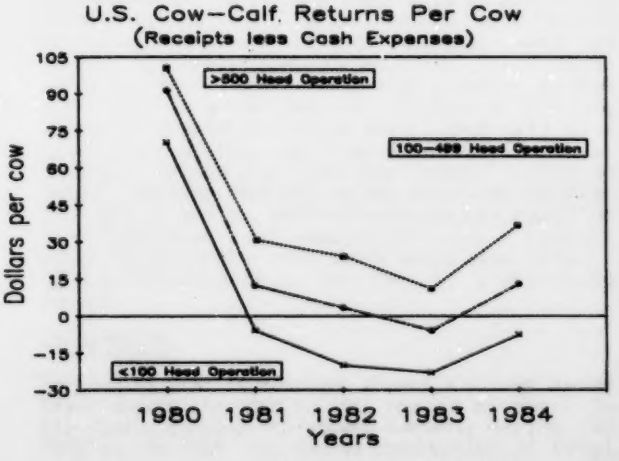

Cash Receipts
1979–83 Average
Broilers 3.2%
Hogs 6.9%
Dairy, other livestock & poultry
14.8%
Cattle & calves
22.1%
Eggs 2.4%
Crops
50.6%


Cow Inventory and Percent Slaughtered
1950 through 1984
Cows Jan. 1
% Cow Herd Slaughtered
Thousand Head
Percent
Years

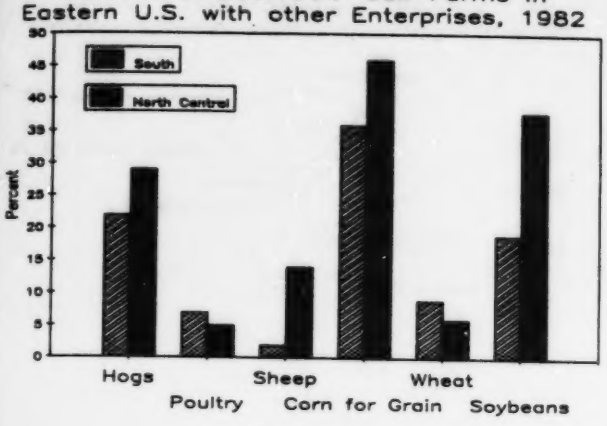

U.S. Meat Production
1975 through 1984
Other
Total Meat
Poultry
Pork
Beef
Billion Pounds
Years


Distribution of Farms with Beef Cows
Distribution of Beef Cows
1982
Farms with Beef Cows
# of Beef Cows
Percent
1–19
20–99
100–199
200 or more
Cows per farm

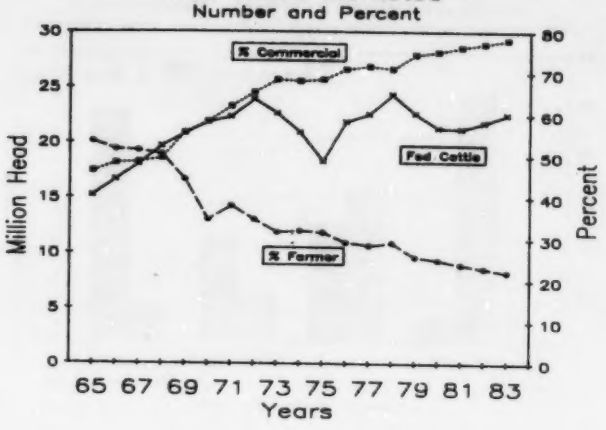

Cattle and Calves Inventory & Feeder Steer Price
1950 through 1984
Cattle & Calves Jan.1
Feeder Steer Price
Million head
Dollars per cwt
Years


U.S. Cow–Calf Returns Per Cow
(Receipts less Cash Expenses)
>500 Head Operation
100–499 Head Operation
<100 Head Operation
Dollars per cow
Years

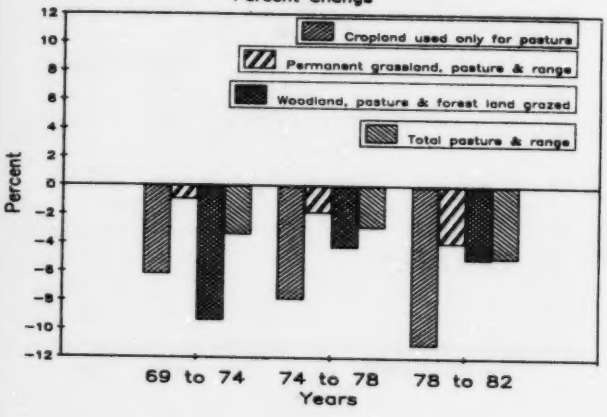
Percent of Beef Cow–Calf Farms in Eastern U.S. with other Enterprises, 1982



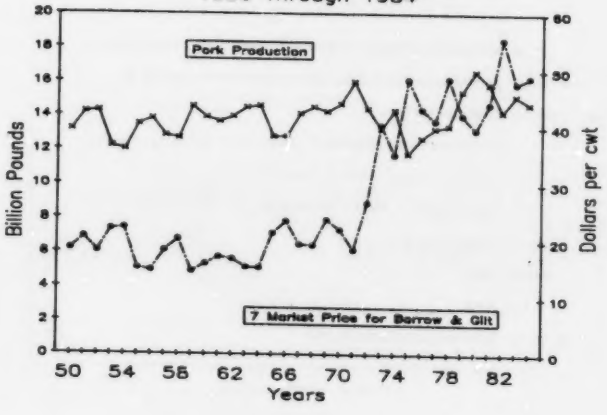
Fed Cattle Marketed
Number and Percent



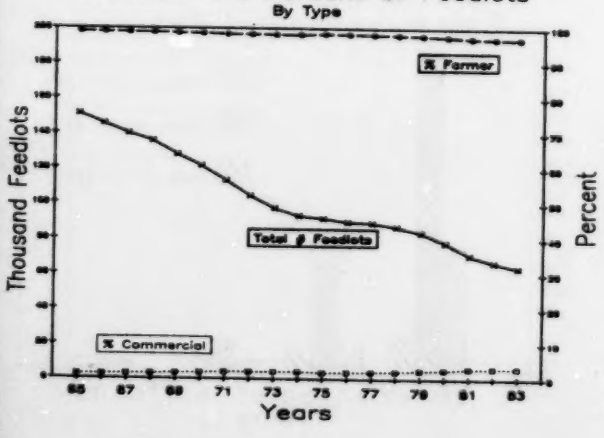
Various Types of Pastures and Ranges
Percent Change



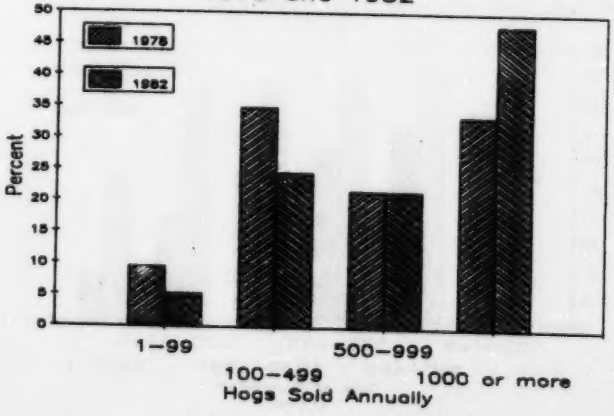
Pork Production & Hog Prices
1950 Through 1984



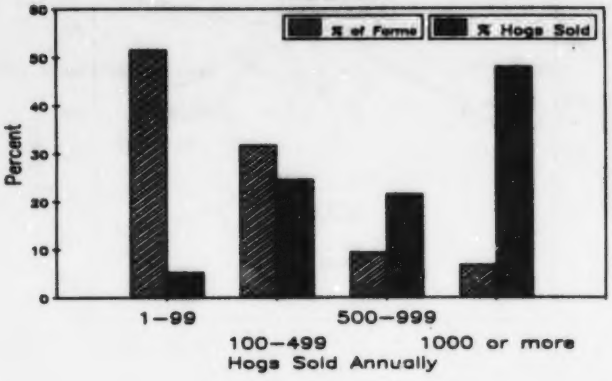
Number and Percent of Feedlots
By Type



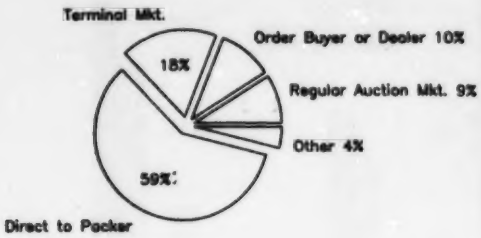
Percent of Hogs Sold by Size of Operation
1978 and 1982



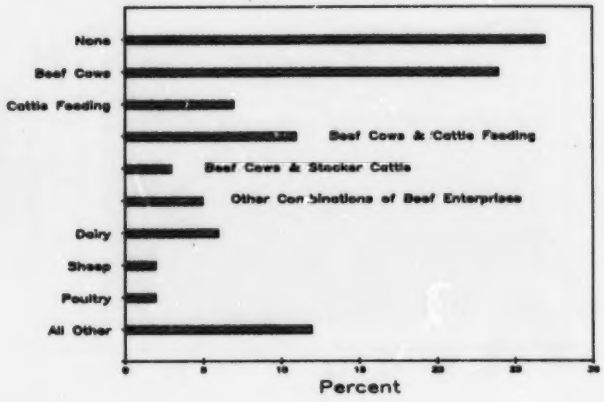
Distribution of Farms Selling Hogs
Distribution of Hogs Sold
1982



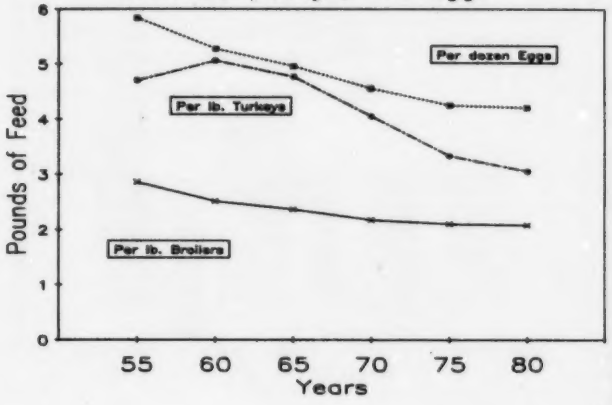
Types of Markets Used for Selling Slaughter Hogs
in 1980



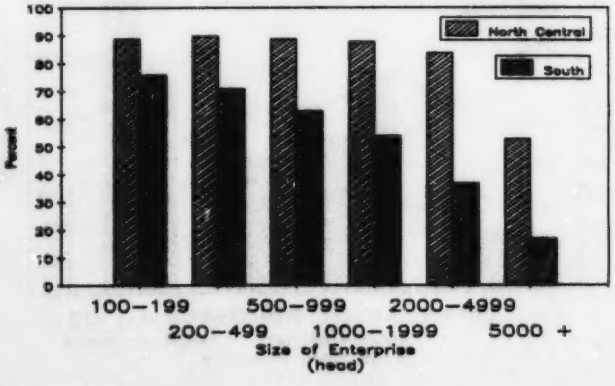
Percent of Hog Farms With Other Livestock
Raised In 1980



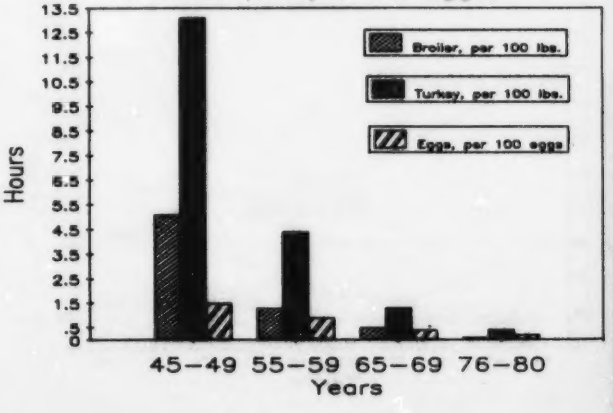
Pounds Of Feed Per Unit Of Output Of
Broilers, Turkeys, and Eggs



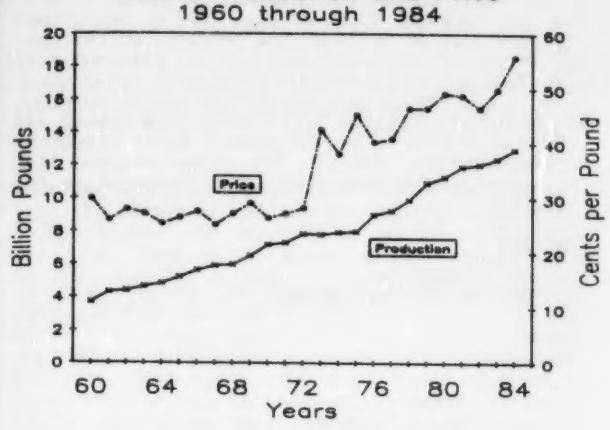
Percent of Grain Fed to Hogs That Was
Produced on the Farm Where It Was Fed
1980



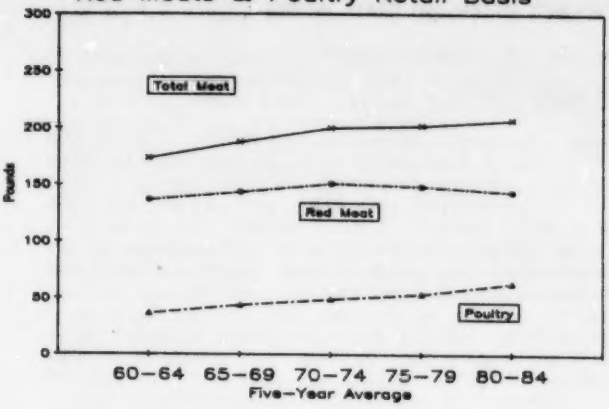
Hours of Labor per Unit of Output of
Broilers, Turkeys, and Eggs



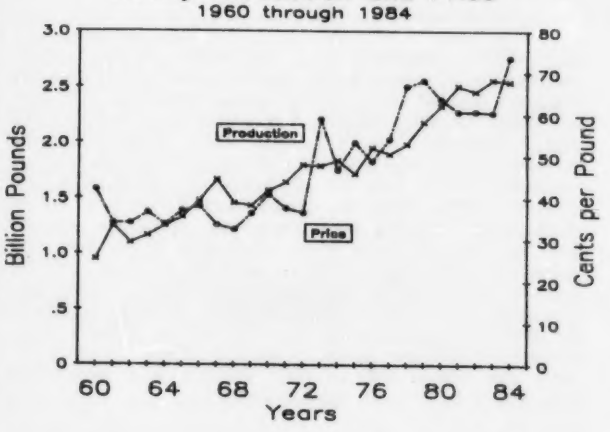
Broiler Production and Price
1960 through 1984



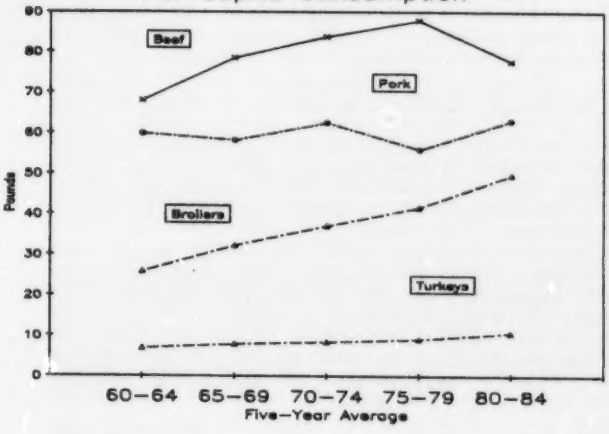
Per Capita Consumption
Red Meats & Poultry Retail Basis



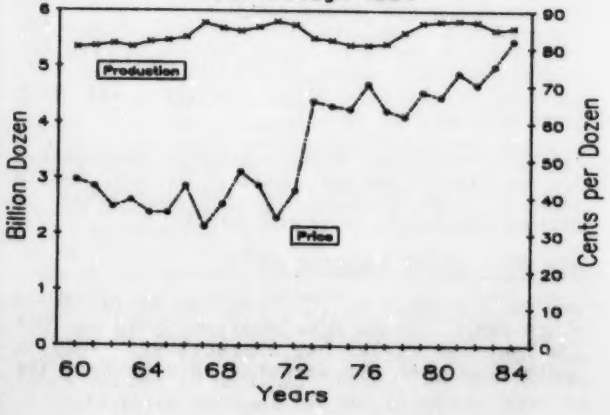
Turkey Production and Price
1960 through 1984



Per Capita Consumption



Egg Production and Price
1960 through 1984



EXCHANGE RATES AND GRAIN PRICES

Dr. John R. Groenewegen

INTRODUCTION

Good afternoon, ladies and gentlemen. I have the privilege of discussing with you the relationship between exchange rates and grain prices. I will not be providing you with a typical outlook statement. Instead, I will answer the question: "Have Canadian grain prices strengthened or weakened by the recent changes in the value of the Canadian and U.S. dollars.

To do this, (OH #1) during the next 15 minutes, I will illustrate the changes in the value of the U.S. and Canadian dollars. Then I will discuss the general analytical relationship between grain prices and exchange rates. Based on this analytical framework I will then show some possible price impacts of recent changes in the Canadian and U.S. dollar. The final portion of my speech will provide some concluding comments and thoughts. After my presentation, if you have some unanswered questions I will answer them the, or through correspondence; if you prefer.

APPRECIATION OF THE U.S. DOLLAR

Most participants in the grain trade are aware that the U.S. dollar has been gaining in strength since 1980. This overhead (OH #2) shows the amount of the U.S. dollar increase against selected currencies. For example between 1980 and 1983, the value of U.S. dollar in terms of United Kingdom and West Germany currencies has increased over 50%, for Japan and Canada this has been less than 10%, and for some countries this has been well over 1,000%. When these changes in exchange rates are weighted by trade shares, then according to International Monetary Fund (IMF) Statistics, the U.S. dollar has appreciated by 38% since 1980.

What some people forget to realize, is that the U.S. dollar devalued through the 1970's. This next overhead (OH#3) shows the IMF trade-weighted exchange rate index of the U.S. dollar. It shows considerable weakening through the 1970's and in fact only in 1983 did the value of the index exceed its early 1970 value. There are a variety of statistics available measuring the value of the U.S. dollar (Show OH#4). In terms of SDR's, the U.S. dollar depreciated by 23% in the 1970's and rose 26% so far in the 1980's. The trade weighted measure of the U.S. dollar shows essentially the same thing, a 21% fall in the 1970's and a 38% rise. A price-adjusted trade-weighted exchange rate measure shows the same general movements. A trade weighted exchange rate for U.S. agriculture, which weights currencies by their imports of U.S. agriculture, has increased by over 400% since 1980. This indicates that the U.S. agriculture has appreciated more against agricultural product importers than against the world. A price adjusted trade-weighted index for U.S. agriculture shows dollar value movement similar to that for the general economy.

An important question that needs addressing is: why has the U.S. dollar shown such dramatic strength in the 1980's? (The answer in part lies in understanding some events that occurred in the 1970's.)

(OH #5)

During the 1970's international financial liquidity increased as the western world had large annual growth rates in money supply and large financial reserves accumulated due to the increases in world oil prices. This high level of financial reserves resulted in large amounts of capital flowing to developing and middle income countries. This high level of international financial liquidity was the main engine of growth for the North American agricultural sector when world trade volumes kept increasing year by year. It also contributed to the depreciation of the U.S. dollar in the 1970's.

The 1980's, however, is a different story. Non-expansionary monetary policy was utilized to dampen inflation. Also money supply did not increase to accommodate the second round of oil price increases in 1979 and 1980. Thus international financial liquidity decreased dramatically. Interest rates had to increase to allocate the scarce funds. However, these high interest rates contributed to the debt repayment problems around the world. The financial liquidity which was the generator of agriculture growth in the 1970's became a liability for further growth. Debt increased from $156 billion in 1973 to $550 billion in 1980 for developing countries, a growth rate exceeding 20% per year. Also for these countries, debt was 40% of GNP in 1982 and the debt servicing was equal to 25% of export value.

The U.S. dollar strengthened since 1980 because of this change in Monetary policy. The high interest rates resulting from the non-expansionary monetary policy had two effects on the dollar value. First, the higher interest rates attracted capital into the United States, forcing up the dollar's value through the higher demand for U.S. dollars. The demand for U.S. dollars also increased because the repayments on overseas loans increased from the higher interest rates. confidence in the U.S. economy relative to other countries was also beneficial in this regard.

The U.S. budget and deficits are also responsible for the high valued U.S. dollar. The U.S. has to attract funds through high interest rates to attract capital to cover the deficit.

MOVEMENTS IN THE CANADIAN DOLLAR

How has the value of the Canadian dollar fared since 1980? (OH #6) Most observors would say that the Canadian dollar has depreciated. This is quite true when the exchange rate between the

Canadian and U.S. dollar is considered. Since 1980, the cost of Canadian dollars in U.S. funds has fallen by 9%. Also 6% fewer Japanese yen are required to purchase one Canadian dollar. However, this opposite is true when European currencies are considered. Against the British pound, the Canadian dollar has appreciated by 54% since 1980. The German Mark is 40% less expensive today than in 1980.

More aggregate exchange rate measures indicate that the Canadian dollar has appreciated since 1980. Against the the SDR, a basket of currencies, the Canadian dollar has appreciated in value by 14%. Against a trade weighted index of exchange rates, the Canadian dollar has appreciated by 7% since 1980.

Thus from a world wide perspective the Canadian dollar is worth more today than it was four years ago. However, against our major trading partner, the United States, the Canadian dollar is worth less.

RELATIONSHIP BETWEEN GRAIN PRICES AND EXCHANGE RATES

Emperical evidence suggests that there is a relationship between exchange rates and grain prices. The figure for (OH #7) U.S. soybean, (corn and wheat) suggest that there is a negative relationship between the value of the U.S. dollar in grain importing countries and the real grain price. The relationships do not appear perfect since year-to-year price changes also depend on changes in the supply-demand balance.

The data, however, point to some interesting relationships (OH#8). First, for soybeans, the real price increased by 15% through the 1970's, while the price-adjusted value of the U.S. dollar for soybean importers fell by 36%. In contrast during the 1980's the real price fell by 35% as the dollar value strengthened by 20%.

For corn and soybeans, the same relationships hold. Real prices rose in the 1970's as the dollar value fell, and real prices in the 1980's fell as the dollar value to grain importers rose.

Economic theory also suggests that there exists a relationship between exchange rates and grain prices. The argument proceeds as follows for the explanatory case where there is one exporter which has appreciated its currency against one importer. (OH #9) First, the higher valued exporters currency causes the import demand facing the exporter to shift in, or more precisely, to rotate in by the amount of currency change. At the same time, from the importers perspective, the export supply curve shifts up (rotates in) by the amount of the currency appreciation. These changes in supply and demand occur because an importer's demand curve which is denominated in the foreign currency has to be converted into the exporters currency through the exchange rate. Due to these changes in supply and demand there is a price impact and a quantity impact. In the general case, an appreciation of the exporter's currency will cause export prices to fall, import prices to rise, and trade volumes to decline. Also, the sum of the absolute price decrease for the exporter and the price increase for the importer, equals the change in the exchange rate. In other words the price impact is shared between importer and exporter.

The sharing of this price adjustment between importer and exporter and the amount of trade response depends on the price responsiveness of the import demand and export supply relations.

The following overhead (OH#10) shows that with the exporter appreciating by 30%, as with the U.S. since 1980, then grain prices fall by 0 to 20% depending on import demand elasticity. An inelastic demand is representative of a market where consumption (or trade) is not very responsive to price. Remember that real U.S. grain prices have fallen by 14 to 22% since 1980.

To summarize, an increase in the value of the exporters currency will tend to increase import prices and decrease export prices. The extent of these price changes depends on elasticities. These results are based on a simple two-country model of trade. The general intuitions are preserved when the analysis incorporates many countries and more traded goods.

EXCHANGE RATE IMPACT ON CANADIAN PRICES

The exchange rate impact in the Canadian context is an extension of the above discussion. Where Canada is the grain exporter, the excess demand (or the import demand facing Canada) is the sum of all the country's import demands minus the export supplies of all of the competiting exporters. The United States of course is the major competitor in the export market. With Canada appreciating against the average grain importer, but depreciating against the U.S., the impact of these exchange rate alignments since 1980 on Canadian grain prices could be either positive or negative.

The answer to this question depends on whether the weighted appreciation against the grain importers exceeds the weighted depreciation against the exporters. If it does, then Canadian grain prices will have decreased from the exchange rate changes since 1980. This weighting procedure incorporates price elasticities and trade shares.

Using a model of Canada in the world grain trade that I developed to look at the exchange rate question, the following impacts are suggested (OH #12). First if Canada did not devalue against the United States, then grain prices in Canada could have fallen by 9% since 1980 due to the stronger valued U.S. dollar. In terms of the weighted exchange rates, there was no depreciation against exporters to offset any appreciation against importers. As we know, Canada has devalued by about 10% against the United States. Then the price impact will be less since the devaluation against competitor is an offsetting factor. When the world import demand elasticity is assumed to be -.5 elasticity (but -2.0 facing Canada), then Canadian grain prices fall by only 4.0% and U.S. prices by 10% more. However, if world import demand is more inelastic (-.1), (and -.4 facing Canada), then Canadian prices in fact rise by 4% and U.S. prices fall by 6%. This occurs because the Canadian weighted exchange rate index with respect to grain importers rose by less than the depreciation against the major exporters. Common empirical estimates of import demand and export supply elasticities suggest that the second situation has likely occurred, that is that the Canadian devaluation against the U.S. has not fully offset the negative price impact of the dollar strengthening against grain importers.

SUMMARY AND IMPLICATIONS

By way of summary, it has been shown that even though Canada has depreciated against our major trading partner, Canada has appreciated against the rest of the world.

In terms of the question posed in the introduction, on whether Canadian grain prices have improved due to exchange rate realignment since 1980, the answer is likely not. The Canadian dollar depreciation against the U.S. dollar has only partially offset the price weakening impact of the strong U.S. dollar.

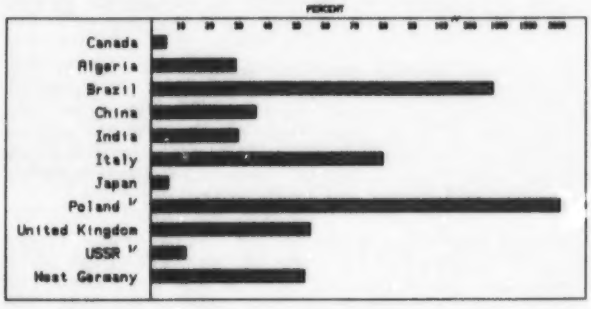
By extension, the contraction in world liquidity also impacts on asset values in North American agriculture. U.S. land prices have fallen since 1980 and the recent Farm Credit Corporation (FCC) survey shows that Canadian farm land values fell by 6.0% since 1981 and by 22% in Ontario.

The future for the Canadian grain sector depends in a large part on what happens to the value of the U.S. dollar and the U.S. budget deficit, a lower valued U.S. dollar will not necessarily allow 1970's type of demand growth to resume. This occurs because a period of non-expansionary monetary policy will likely remain and so will the debt in many of the grain importing countries. That is the response to a lower valued U.S. dollar will not be similar to the 1970's response, nor symmetric with the 1980's dollar increase. This of course assumed monetization does not become a large part of U.S. monetary policy.

If the U.S. dollar falls somewhat, U.S. grain prices will strengthen to some degree. What happens to Canadian grain prices and consequently asset values in Canadian agriculture depends to a large part whether the Canadian dollar stays where it is, or whether it appreciates against the U.S. dollar. If the Canadian weighted depreciation agaist grain importers is less than the weighted appreciation against competiting exporters (namely the United States), then Canadian grain prices will not rise. This also says something about land values.

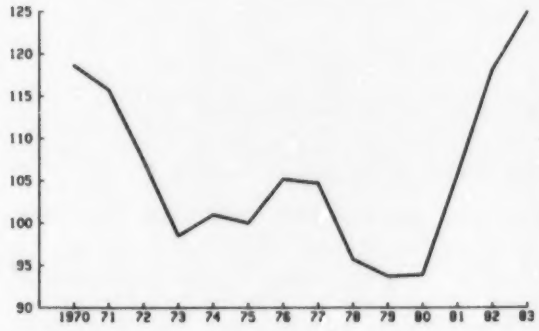
My purpose has not been to be alarmist. My purpose has been to answer the question of the impact of exchange rates on Canadian Grain prices.

PERCENTAGE CHANGES IN THE FOREIGN EXCHANGE RATE VALUE OF U.S. DOLLARS FOR SELECTED COUNTRIES' CURRENCIES BETWEEN 1980 AND 1983



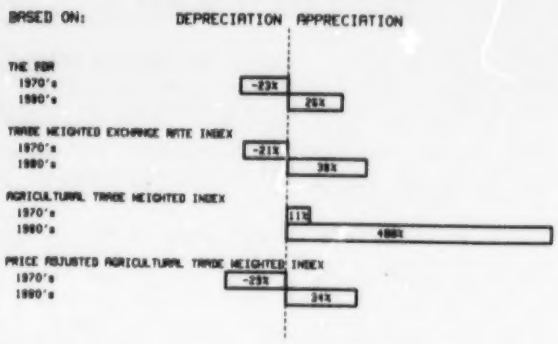
1/ [illegible]

THE FOREIGN EXCHANGE VALUE OF THE U.S. DOLLAR(*)



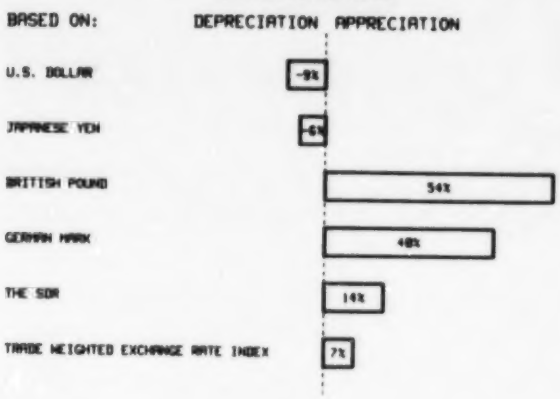
* 1975 = 100
TRADE WEIGHTED EXCHANGE RATE INDEX, SOURCE: IMF STATISTICS

CHANGE IN THE DOLLAR VALUE OF THE U.S. DOLLAR



SOURCE: IMF, USDA

CHANGES IN THE FOREIGN EXCHANGE VALUE OF THE CANADIAN DOLLAR SINCE 1980



SOURCE: IMF

MOVEMENTS IN THE U.S. DOLLAR

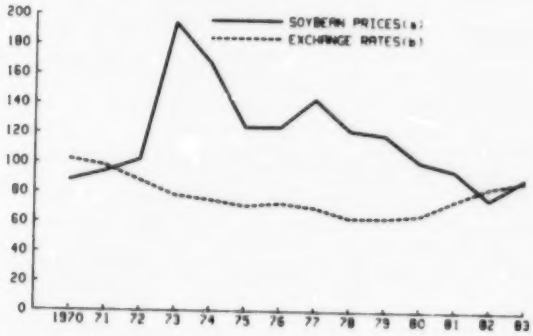
1970's

- EXPANSIONARY MONETARY POLICY
- INCREASE IN INTERNATIONAL LIQUIDITY
- INFLATION
- LOWER VALUED U.S. DOLLAR
- GROWTH IN EXPORT DEMAND

1980's

- NON-EXPANSIONARY MONETARY POLICY
- HIGH REAL INTEREST RATES
- HIGH FOREIGN DEBT LEVEL
- U.S. BUDGET DEFICIT
- STRONG U.S. DOLLAR
- SLOW DOWN IN EXPORT GROWTH

EXCHANGE RATES AND SOYBEAN PRICES



(a) REAL U.S. SOYBEAN PRICE
(b) PRICE-ADJUSTED TRADE WEIGHTED EXCHANGE RATE FOR U.S. SOYBEAN EXPORTS

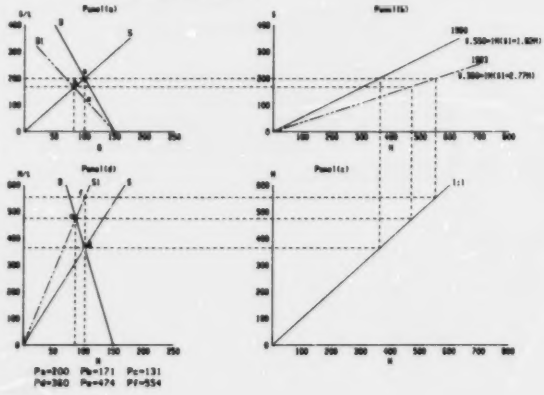
CHANGES IN GRAIN PRICES AND TRADE-WEIGHTED EXCHANGE RATES

	PRICE[A]	EXCHANGE RATE[B]
SOYBEANS		
1970's	15%	-36%
1980's	-20%	+35%
CORN		
1970's	16%	-32%
1980's	-14%	+35%
WHEAT		
1970's	38%	-24%
1980's	-22%	+38%

(A) REAL PRICES

(B) PRICE-ADJUSTED EXCHANGE RATES

FIGURE 1. THE IMPACT OF EXCHANGE RATES ON NORTH AMERICA AND FOREIGN GRAIN MARKETS



INFLUENCE OF IMPORT DEMAND ELASTICITY ON EXCHANGE RATE PRICE INDEX

	CHANGE IN EXPORTER GRAIN PRICES RESULTING FROM A 30 PERCENT EXPORTER CURRENCY APPRECIATION
UNITARY ELASTIC DEMAND	-20 PERCENT
INELASTIC DEMAND (-.2)	- 9 PERCENT
PERFECTLY INELASTIC DEMAND	0 PERCENT

EXCHANGE RATE IMPACT ON CANADIAN GRAIN PRICES

CANADIAN GRAIN PRICES

FALL

IF THE APPRECIATION OF THE WEIGHTED EXCHANGE RATE INDEX OF THE CANADIAN DOLLAR AGAINST IMPORTERS

EXCEEDS

THE DEPRECIATION OF THE WEIGHTED EXCHANGE RATE INDEX OF THE CANADIAN DOLLAR AGAINST EXPORTERS

WHERE THE WEIGHTING INCORPORATES PRICE ELASTICITIES AND TRADE SHARES

EXCHANGE RATE IMPACTS ON THE CANADIAN GRAIN SECTOR

	EXCHANGE RATE SCENARIOS			PRICE IMPACTS	
CASE	CANADA VIS-A-VIS U.S.	CANADA VIS-A-VIS IMPORTERS	U.S. VIS-A-VIS IMPORTERS	CANADA	UNITED STATES
A*	0	+30%	+30%	-9%	-9%
B**	-10%	+20%	+30%	-4%	-14%
C*	-10%	+20%	+30%	+4%	-6%

*TRADE-WEIGHTED ELASTICITY OF -.5, IMPORT DEMAND ELASTICITY FACING CANADA OF -2.0 AND EXCESS DEMAND ELASTICITY FACING CANADA OF -5.0.

**TRADE-WEIGHTED ELASTICITY OF -.1, INPUT DEMAND ELASTICITY FACING CANADA OF -.4 AND EXCESS DEMAND ELASTICITY FACING CANADA OF -3.5.

IMPLICATIONS OF THE OECD AGRICULTURAL TRADE STUDY FOR CANADIAN GRAINS AND OILSEEDS

Don McClatchy

PREAMBLE

This title may sound a bit ominous. Let me state at the outset that I do not think that this study, per se, will have any major immediate implications for the Canadian grains industry. It is, after all, only a study.

However, to a large extent the study is about reduced agricultural protectionism and increased agricultural trade. It will almost certainly lead to a better understanding of the factors affecting world trade in farm products and, in turn, will influence the outcomes of future international trade agreements, both multilateral (e.g., through a new GATT "round") and bilateral. I suspect that the next GATT round could be more significant for Canadian agriculture, including the grains sector, than past rounds have been.

I propose to divide this brief presentation into four sections, as follows:

(1) A brief overview of the history, objectives and scope of the OECD study;

(2) An indication of the features of this study which represent improvements over past studies;

(3) An indication of the type of results and outputs which the study will generate;

(4) Some speculation about possible indirect implications of this study for the Canadian grains industry, including possible implications of the study for a new GATT round.

OVERVIEW OF THE STUDY

The OECD Ministerial Trade Mandate study in agriculture is often referred to simply as the "Trade Mandate" or "MTM" study. It was commissioned by the OECD's Agricultural Ministers in May 1982, and is expected to be completed in early 1986. The study currently occupies most of the resources of the OECD's Agricultural Directorate, with considerable cooperation from member country governments. Direction and control of the study is provided by the Committees for Agriculture and for Trade.

For implementation the study has been divided into three parts.

Paraphrasing a little, the principal objective of Part I is to analyze the effects of a balanced and gradual reduction of protection for agriculture among OECD members. For this purpose the Secretariat is developing a quantitative analytical framework, - multidimensional in terms of both countries and commodities. Countries or blocks to be represented include Canada, USA, EEC, Japan, Australia, N.Z., Austria, two (probably) groups of 'other OECD' countries and three (probably) groups of 'non-OECD' countries. Commodities of interest to Canada to receive individual treatment are Wheat, Coarse Grains, Rapeseed, Soybeans, Milk, Butter, Cheese, Skim Milk Powder, Beef, Pork, Poultry, Eggs, Sheepmeat, and Sugar (including sweeteners).

Part II involves a country by country approach to gathering information on and examining all national program and policy measures which impact significantly on agricultural trade. To a large extent the Part I analysis is dependent on the Part II process for the generation of necessary data and information. So far, under Part II, the Canada and Australia reviews are complete, and the U.S. and EEC reviews are now at an advanced stage.

Part III encompasses a commodity by commodity analysis of how the functioning of world markets could be improved. This Part is likely to be concerned in particular with questions of price and volume stability. However, it would appear that less progress has been made with the conceptualization and implementation of this Part of the study. It is hoped that it will eventually generate useful recommendations in the international grain trade area.

In general, the study is intended to build on the conclusions of an earlier OECD Study on Problems of Agricultural Trade (published in 1982) and eventually to contribute "to progress in strengthening cooperation on agricultural trade issues and to the development of practical multilateral and other solutions".

FEATURES OF THE STUDY

Several recent academic studies have already been made of the likely impacts of reduced agricultural protection, by single major traders, like the EEC, or by groups of countries, like the OECD block. Most studies suggest that increases in world grain prices would be in the range of 0-20% if protection in the grains area could be eliminated, depending on the particular grain and the number of countries liberalizing. In the cases of dairy products and most meats, world price rises would probably be more significant than this, under perfectly free trade.

The current OECD study has certain advantages over previous studies from various sources, and will thus likely add considerably to the total evidence and information available on this broad subject.

To begin with, there is an emphasis in this study on quantitative analysis, to a degree probably not seen before in OECD agricultural studies: for example, rather than just concluding that EEC exports result in depressed world skim milk powder prices, the interest here would be in determining by how much each additional one million tonnes of SMP exports from any country drives down such prices.

Secondly, there is an emphasis on interdependencies, - between commodities and between countries, in particular. An example of such an interdependency would be the impacts of recently changed dairy policies, and hence reduced production, in the EEC and the U.S., on world feed-grain and beef markets; or, if you would like a less obvious example to mull over, the possible future impact of reduced U.S. protection for its sugar industry on Canadian feed grain prices.

Thirdly, there is an emphasis on analyzing the impacts on world markets of simultaneous policy changes in several different countries, such as might be expected to occur as a result of new international trade agreements.

Fourthly, this study is focussing on the trade impacts of domestic agricultural programs to a degree not often seen in past agricultural trade studies, and consistent with the increasing evidence and realization that it is internal farm policies which are in fact at the core of most so-called trade distortions.

Fifthly, the scale of the resource and information base which can be tapped via the cooperation of member country governments, bestows some advantages on the OECD mechanism as a forum for this type of work.

TYPES OF RESULTS AND OUTPUTS EXPECTED

The study will provide information, at least for the OECD countries, about which types of government measures cause most of the problems in agricultural trade. Already, it is becoming more obvious that relatively high levels of protection don't necessarily translate into large trade effects; it depends very much on the type of program. While most types of domestic agricultural support increase exports or reduce imports, Canada's poultry supply management program provides quite a lot of price support for relatively small trade effects, while the U.S. land diversion/retirement programs raise prices at the same time as they (probably) reduce exports. Similarly, some types of domestic programs are much more conducive to instability in international prices than others. Information on which types of program "offend" most will be a useful guide as to where efforts should be concentrated in re-drafting or developing new GATT rules.

More information will arise from this study about the relative extent to which the trade of each different agricultural commodity is distorted. This might be thought of as the percentage change in world price or in world volume traded if all current protection were reduced by a given percentage amount in all countries. An initial hypothesis of most people would be that international trade in oilseeds (in particular) and grains is less distorted than in most other agricultural commodities. I expect that this in general will be confirmed, but we may be in for some surprises in some other commodity areas, and even in the extent to which the trade impacts vary between individual grains and oilseeds.

The study will shed some more light on relative levels of protection in different countries. While recognizing the problems of interpretation involved with measures of nominal (e.g., as opposed to real or effective) protection, and recognizing that the exercise was never intended to generate inter-country comparisons, it is always useful to have some broad indication of how Canada stacks up against the other principal agricultural exporters in this regard. In the grains area, for example, it would appear that the nominal protection afforded Canadian wheat and barley producers, at around 12% between 1979-81, was somewhat higher than the approximately 3% given to Australian producers over the same time period. Simplifying a little, nominal protection can be thought of as the percent by which farmers' crop prices would decline if Government agricultural policies and programs were withdrawn.

Perhaps the most important results which the study will generate will be the full accounting for gains and losses, to producers, to consumers and to taxpayers, - under the supposition of a balanced reduction of protection across all OECD countries. This exercise will likely focus on such a balanced reduction commodity by commodity and also across all commodities simultaneously. It is expected and hoped that most if not all OECD countries will be shown to be net gainers from such multilateral protection reduction. Such results, in turn, would underline the benefits to be had from progress towards removing impediments to agricultural trade under a new GATT round, and spur member countries to greater efforts to reach agreement there. At the same time the results would provide precise indications of the size of losses to the (hopefully few) interest groups in some countries who could conceivably be net losers if such a balanced liberalization of agricultural trade were to eventuate, and therefore, a guide to governments as to the appropriate levels of compensation which might be considered. Finally, these results from Part I of the study will indicate to us the extent to which the gains and losses in a particular commodity area depend on the extent of parallel protection reduction taking place in other commodity areas, - something on which we have very little information at the present time.

Lastly, it should be noted that the development of a comprehensive and flexible analytical framework must also be seen as an important output of the current OECD exercise. I refer here in particular to the tool being built under Part I, but conceivably also to others which Part III will generate. Many "what if" scenarios will be able to be explored in detail, with implications for other commodities and other countries spelled out as well as those for the country and commodity directly affected. Changes able to be tested will include both factors under the control of OECD countries (like commodity policy specifics) and "external" factors (like the level of corn production in China, or US/European exchange rates). Also the analysis may be carried out "before the fact", to provide information useful to Government decisions about policy adjustments or negotiating strategies, or immediately "after the fact", to predict shorter and longer term consequences of changes which have already occurred and thus facilitate necessary adjustments to a new trading situation.

What does or could all this mean in the case of Canadian grains? The framework being developed could potentially provide a formal and logical basis for determining the impacts, for example, on the quantities of barley, wheat, rapeseed, etc. that Canada would produce and export, and on the prices farmers would receive, as a result of such diverse possible changes to the overall trading environment as:

(1) a biotechnology-based breakthrough in the control of foot and mouth disease (and perhaps other tropical cattle diseases) resulting in a significant increase in the supply of surplus beef from developing countries;

(2) the introduction of some form of supply control for beef in the EEC;

(3) the gradual reduction of grain support prices (in local currency terms) in the EEC;

(4) a significant reduction over time in Russian wheat and/or feed grain imports;

(5) a shift in U.S. grain policy towards world market determined prices and without diversion programmes;

(6) a GATT agreement to eliminate all agricultural export subsidies.

Better information about the positive and negative implications for Canada of such international changes would give us some indications of the amount of effort we should devote, via negotiations and other political channels, to attempting to influence their magnitude or direction.

In similar vein, as we live in an increasingly interdependent world, it will become increasingly important for us to consider potential impacts of our own domestic policy and program changes on other countries before making such decisions. Rapid EEC reaction to talk of the possibility of Canada reducing cheese import quotas, rapid U.S. reaction to our recent extension of Crow benefits to a wider range of commodities, and current U.S. interest in the possible export-stimulating effects of our federal and provincial hog programs, whether justified or not, are all examples which attest to this. Canada's signing of the GATT commits us not to do certain things which would be harmful to other countries, just as it gives us a certain protection against harmful actions by others.

A comprehensive world trade analysis framework, such as that being developed as part of the OECD MTM study, for the purpose of systematically showing impacts on a range of other countries of Canadian policy alternatives, or for showing the implications for all Canadian commodity sectors of a given foreign change, is not yet available to Canada.

IMPLICATIONS FOR CANADIAN GRAINS

I would like to emphasize that the views expressed in this section, in particular, are my own. They are not necessarily shared by other Agriculture Canada economists, nor should they be interpreted as representing an official Canadian Government position.

Implicit in what I have said so far is the notion that the OECD trade study will probably indirectly affect the future Canadian grains sector through the influence of its results on the outcomes of unilateral agricultural policy decisions in many countries, and of bilateral and multilateral trade negotiations. I propose to concentrate in this section on the possible influences of the study on the outcome of a new multilateral negotiating round under the GATT. However, I think it is valid to generalize that, in all the above contexts, because of the increased awareness of the impacts of any one country's policies on other countries which will arise from the study, future Canadian agricultural policies and programs will be less 'rich' and beneficial to Canadian farmers (though perhaps more beneficial to Canadian consumers), but, on the other hand, other countries' policies will in future be less damaging to Canadian farmers, other things being equal. This is not to deny that other factors, like exchange rates and growing financial constraints in many countries, will probably influence future farm programs much more than will the OECD study.

Indications are that a new round of GATT negotiations will commence in late 1986 or 1987. The timing of the OECD study is thus almost perfect from the point of view of having some impact on this round.

Most people agree that past GATT rounds have been largely unsuccessful in the agricultural field because they have not dealt effectively with the non-tariff measures which permeate agricultural trade. If anything, agricultural protectionism among member countries has generally increased rather than decreased since the last round. Nevertheless, many people continue to believe, - and this remains reflected in the official position of most western governments, - that, if a multilateral liberalization of agricultural trade could somehow be achieved, all countries involved in this trade would be better off.

Yet the political commitment to freer agricultural trade has remained weak. This probably reflects the fact that there are some fairly obvious costs, - political as well as economic, - while the benefits have remained somewhat vague and tenuous. Past evidence, as already discussed above, has tended to be too partial and fragmentary and to not add up to a consistent whole.

Now, however, through the OECD work, and similar work at the IIASA in Austria, a much clearer complete picture of the implications of freer agricultural trade for all major commodities and trading countries is beginning to emerge. My expectation is that these results will lead governments to a clearer understanding of the benefits to be obtained (and perhaps also a higher perceived value of these benefits) and a stronger commitment to progress in the agricultural area in the next GATT round.

Past GATT negotiations have been multilateral in one sense but not in another. The "request and offer" system used resulted essentially in a bilateral balancing of benefits. In other words, an offer from country A, who perceived that country B would receive certain benefits from that offer, would be conditional on B offering something which would yield commensurate benefits to A. Many people feel that this is the only practical way another negotiating round could proceed.

Unfortunately, such a procedure seriously constrains the potential benefits to be derived from negotiated reductions in trade barriers, and I expect the OECD study will be able to demonstrate why this is so. Bilateral balancing of benefits excludes the many possibilities involving three or more countries, such that, for example, B may benefit from greater access to A's market for one commodity, C may benefit from reduced export subsidization by B of another commodity, D from a policy change implemented by C, and so on back to something for A.

There are now 90 full members of GATT and a further 31 de facto members. With the growing importance of developing countries in world agricultural trade, such countries will have more influence in the next set of negotiations. Ideally, the negotiating mechanism would be able to cope with 3-way and even more complicated multilateral trade-offs. While the essential message of the old cliché "trade is a two-way street" remains valid, this cliché implies bilateral trade. Multilateral trade can be better likened to downtown Ottawa: many one-way streets, but with the comings and goings in all directions from any one intersection balancing each other.

For governments to enter this new round with much more of a commitment to a truly multilateral approach, may require somewhat of an act of faith that if a set of rules is chosen and applied equally to all countries, they will all, in the final analysis, benefit, even though the pattern of benefits is likely to be far too complicated to be practically negotiable. On the other hand, a global analytical framework such as that being developed in the OECD study would provide a mechanism whereby a whole set of simultaneous policy adjustments by many countries could be specified and all the implications, for each country in each commodity area, rather quickly simulated. This process could conceivably be repeated for a whole range of scenarios (i.e., combinations of policy adjustments). It may just offer the key to a practical mechanism for truly multilateral negotiations.

Once one or a few base scenarios had been identified which, after discussion among all GATT members (or representatives of negotiating blocs), showed some promise of being acceptable with modifications, these could become the basis of a negotiating process. A fuller examination, with delegations airing their respective views, would hopefully lead to some consensus about which countries benefited rather more and which rather less from the scenario in question. An iterative process, of identifying revisions to the base scenario which would result in a more balanced outcome of benefits and costs, could then hopefully lead to the evolution of an acceptable final scenario.

Clearly, there would be many problems in implementing a GATT negotiating process based on multilateral balancing of costs and benefits. However, I suspect that it may also prove quite difficult to revive the old system. Past bilateral balancing appears to have been facilitated by frequent and willing recourse to the use of exceptions and waivers to the negotiated rules. Today, however, there appears to be a growing feeling among governments that these exceptions have lead to many problems and that more effort should be made in future to minimize their use.

At this early stage we can only speculate about both the negotiating procedures which will evolve, and about the final outcome for agriculture from a new round of GATT negotiations. Improved access to foreign markets and more effective rules on subsidies affecting exports are clearly in the Canadian grain sector's long term interests. However, there can be no "free rides". It is unrealistic to expect the EEC, for example, to agree to modify its variable import levy or export subsidy system if other grain producers refuse to modify their trade-affecting measures or to offer concessions in other commodity sectors of interest to the EEC. Current very preliminary indications are that Canadian grain producers could look forward to net price benefits from a new GATT round somewhere in the approximate range of 0 to +10% (after allowing for the negative effects of modifications to some current Canadian measures which may be required). A net negative outcome, where costs to Canadian grain producers would exceed benefits, does not appear conceivable, assuming gradual balanced reduction of existing levels of protection.

In summary, we can expect that the greater the number of chips put on the table, the greater the size of the eventual pot. It also appears likely that the better appreciation of possible impacts of alternative scenarios, which policy-makers will gain from the OECD study, will facilitate more rather than less progress in the next GATT round.

DAIRY OUTLOOK

Clifford M. Carman and William C. Paddock

World cow's milk production is expected to be down slightly in 1984 and is projected to remain about unchanged next year. The decline in this year's output level has reduced milk available for the manufacture of butter and nonfat dry milk (NDM). In addition, world trade in dairy products increased in 1984 and is expected to enlarge next year. However, despite lower supplies and larger trade, world prices trended lower throughout 1984, as they have since the fall of 1981. Prices in the international markets are likely to continue near current levels next year.

Here in the United States surplus removals (next purchases) by the Commodity Credit Corporation (CCC) are sharply lower. Net purchases from January to November of this year are down by nearly half because of larger commercial disappearance and lower milk marketings (lower production and additional farm use). In 1985, milk production is expected to be up about 1%, but farm use will be down, thus, marketings will grow by about 2%. Commercial disappearance is also expected to be up about 2%, leaving USDA net removals nearly unchanged at about 8.5 billion pounds. The relatively large level of purchases is expected to keep wholesale prices near the lower CCC purchase prices. With lower product prices, pay prices to farmers are likely to be lower, while retail prices remain about unchanged.

With all of the attention on the diversion program, the nonparticipating producers have been somewhat ignored. In 1983, this group expanded milk output by 5.5 to 6%. By mid-1984, these producers had reduced production to be about even with a year earlier. If the earlier expansion of the nonparticipants had not been sharply reduced, their growth would have offset the declines of the participants. Clearly, lower milk prices and higher feed costs do weaken milk production.

This year for the first time, federally inspected (FI) cow slaughter is being reported separately for dairy and beef cows. The FI dairy cow kill for January-June was 1.74 million head, implying a total commercial slaughter of 1.81 million (not all cows killed are federally inspected). Assuming death loss at 1% (2% annually), the number of replacements that entered the herd during January-June 1984 was 1.65 million head, 33.8% of the July 1, 1983, inventory. Total FI cow slaughter from January through November 17th (46 weeks) totalled 7.2 million--2.9 for dairy and 4.3 for beef.

Dairy heifers (500 pounds and over) held for herd replacement totalled 4.95 million head, up 70 000 (1.4%) from July 1, 1983. With a gain in replacements and a decline in milk cows, the number of heifers per 100 cows was a record 45.6. Five years ago, when the current surplus started, there were 38.5 replacements per 100 cows.

A record rate of culling during first-half 1984 offset the large number of replacements calving and entering the herd, hence the 290 000-head decline from January to June. Based on the January 1 and July 1 inventories and assuming that 35% of the July 1, 1983, replacements calved during first-half 1984, 2 million head or about 18% of the January 1, 1984, cow herd were culled (including death loss).

The 35% is based on average ages of 27 months for calving and 10 months for a replacement to reach 500 pounds. During first-half 1983, culling and death loss totaled about 1.63 million head, nearly 15% of the January 1, 1983 inventory. Therefore, about 370 000 additional dairy cows likely went to slaughter during first-half 1984 when compared with first-half 1983. For the last 10 years, the culling rate during January-June has averaged 13.5%.

For the rest of 1984, with cow numbers expected to decline slightly, while the drop from a year earlier in output per cow slows, milk production is likely to decrease at an annualized rate of about 4%. Total production for 1984 will be about 136 billion pounds, down 3.9 billion pounds (2.8%). In 1985, production is expected to be unchanged to 2% higher than this year.

Farm Milk Prices Improve

Milk prices received by farmers in August were below a year earlier. However, the difference was only about one-third of that in April. During November, milk prices were slightly above last year. Prices are expected to remain above year-earlier levels until March.

Reported U.S. manufacturing grade milk prices received by farmers during September-November averaged $12.90 per cwt, 10 cents above the same period in 1983. In contrast, the average during June-August was down 23 cents and during January-May it fell short by 40 cents. This fall and winter Grade B prices are expected to average about the same to 30 cents higher than one year earlier. For all of this year, the average is anticipated to be about $12.45 per cwt, down nearly 20 cents from 1983. In calendar 1985, with lower support prices on April 1 and July 1, the average will likely be down 50 to 80 cents per cwt.

Prices received by farmers for all milk during January-November averaged $13.35 per cwt, 20 cents below a year earlier. Milk prices have strengthened, September-November prices were about 17 cents above a year earlier, but the annual average probably will be about 20 cents below 1983's $13.57 per cwt. The effective all-milk price (adjusted for differences in deductions) may be down about 30 cents. This winter, the reported all-milk prices are expected to remain above year earlier levels, but will likely move below during the spring and remain below for the rest of the year, given the lower support prices. The all-milk price in 1985 may average 35 to 70 cents lower than 1984. The effective price may be unchanged to 35 cents lower, because the 50-cent-per-cwt deductions stop at the end of March.

Feed Prices Below Last Year

The 1984/85 corn crop, based on November 1 conditions, is forecast at 7.5 billion bushels--a yield of 105.9 bushels per acre on 71.1 million acres

harvested for grain. The crop has put downward pressure on prices this fall. The crop will likely be larger than usage, thus carryover stocks are expected to increase. As a result, farm prices of corn will be lower in 1984/85 than last year when the market was dominated by drought and the effects of PIK. Prices at the farm are expected to range from $2.65 to $2.95 per bushel, compared with last year's average of about $3.20.

This year's soybean crop is also expected to exceed use, so stocks will increase. With additional stocks, soybean prices during 1984/85 are likely to be less volatile and lower--ranging from $6.00 to $7.20 per bushel, compared with $7.75 in 1983/84. Prices for soybean meal (Decatur) are forecast to average $145 to $165 per ton, down from last year's season average of $188.20.

The average price paid by farmers for 16% protein dairy feed has declined since last year. Mid-November prices averaged $177 per ton, down $28 from a year earlier. With milk prices during November higher by 20 cents, the dairy farmer was able to buy 159 pounds of grain for each cwt sold--up 23 pounds (16.9%) from a year earlier and the highest value for the milk/feed ratio since January 1983.

With corn and soybean meal prices lower and expected to remain below through mid-1985, the cost of 16% protein dairy ration will likely remain lower than a year earlier at least until next summer. Meanwhile, milk prices, which are higher now, are expected to fall below year-earlier levels by spring. As a result the milk/feed ratio will be higher than a year earlier during first-half 1985 and lower during the second-half.

Wholesale Prices Advance

During June, butter prices (Grade A, Chicago) advanced 18 cents to 160.75 cents per pound, 15.25 cents above a year earlier, 17.5 cents above the CCC purchase price, and 3 cents above the minimum sellback price. This large early price advance was triggered by a certain amount of panic in the cream markets and could not be supported by basic supply-demand conditions. During July, butter prices fell 15.25 cents to 145.50 per pound, even with a year earlier. In August, prices again advanced, rising 12.35 cents to the minimum sellback level of 157.75 per pound, 9.75 cents above a year earlier. Butter prices are expected to move lower by year end, to a level near the current purchase price of 143.25 cents per pound. In 1985, they will likely move lower in March-April and June-July as the level of the support purchase price is reduced.

The price of Cheddar cheese (Wisconsin assembly points, 40-pound blocks) also demonstrated strength this summer. The September average of 144.29 cents per pound was 8.25 cents above June, and about 5 cents above the support purchase price. Prices in late October and early November have moved about 4.5 cents lower. Some additional downward movement seems likely before the end of the year. Like butter, cheese prices will move lower near April 1 and July 1.

Retail Dairy Prices Up Slightly

The Bureau of Labor Statistics retail price index for all dairy products stood at 256.1 (1967=100) in October, up 2.4% from a year earlier. In contrast, the all-food index was up 3.9%, while all retail prices were 4.2% higher. Retail dairy prices in November-December are expected to be up about 2.5% from 1983, leaving the average at about 253.3 for 1984, a gain of 1.4% from 1983. Retail prices for all foods are expected to average about 4% higher. In 1985, retail prices of dairy products are projected to be unchanged to 2% higher, food items will range from 2 to 5% larger and all retail items 3 to 7% more.

Commercial Use Higher

Third-quarter commercial disappearance of all milk and dairy products, on a milk-equivalent, fat-solids basis, was up a healthy 1.8%, following a strong first-half gain of 4.2%. For January-September, commercial disappearance is up 3.1 billion pounds, 3.4%. In the absence of any additional displacement by donated dairy products, commercial sales responded strongly to the robust improvement in the economy.

Even if sales remain unchanged this fall, commercial use for 1984 would be up 2.5%. However, some additional gains seem quite likely because of larger per capita incomes and the national dairy product promotion program. For all of 1984, sales are expected to be up about 3%. In 1985, commercial disappearance of all dairy products is projected to be up 1 to 4%.

A comparison of January-September commercial sales of major dairy products with a year earlier shows that butter was up 7%, American-type cheese 12%, cheese other than American types 7%, frozen dairy products 0.4%, fluid products 1%, and nonfat dry milk 19%. Meanwhile, canned milk was down 11%.

CCC Stocks Lower

Milk-equivalent stocks (fat-solids basis) held by CCC on October 1 were 15.6 billion pounds, a decrease of 3.5 billion (18.5%) from a year earlier. Meanwhile, stocks held by the trade on October 1, at 5.2 billion pounds, were unchanged from last year. Government owned stocks have declined since June because CCC program usage was larger than net removals from the market.

CCC Purchases Sharply Lower

USDA net removals (delivery basis) of dairy products under the price support program during January-October equaled 8 billion pounds of milk (fat-solids basis), down 7.2 billion (48%) from the same period in 1983. Government purchases are being reduced because commercial disappearance and farm use are larger, while milk production is lower. For calendar 1984, CCC net purchases are expected to total about 8.5 billion pounds, compared with 16.8 billion in 1983. In 1985, CCC net purchases are projected to remain about unchanged.

Dairy Support Costs Lower

There are a number of ways to compute the cost of the dairy price support program. One method is to look at the taxpayer's cost. With this method, you sum the cost of net purchases for a marketing year, reduce the total for any deductions, and then add on diversion payments. Under this method the costs in 1982/83 were about $2.5 billion, up 16% from a year earlier. In 1983/84 costs dropped sharply to about $1.4 billion and are projected to be about $1.5 billion in 1984/85.

SUMMARY

While a drop of about one-half in the level of removals is impressive, it does not give the final verdict on the paid diversion program. That depends on what actions dairy farmers take in the coming year.

The diversion payments were intended to offer short-term relief, allowing farmers time to adjust their production resources to create a closer, longer-term balance between milk supply and demand. The diversion program ends on March 31, 1985, and is not expected to be extended. If producers increase milk marketings significantly after the program ends, we could end up back in circumstances similar to that of 1983 by 1986.

To recap, milk production in 1985 is expected to be up about 1%, but farm use will be down, thus, marketings and total supply will grow by about 2%. Commercial disappearance is also expected to be up about 2%, leaving USDA net removals nearly unchanged at about 8 billion pounds. The relatively large level of purchases will keep wholesale prices near the lower CCC purchase prices. With lower product prices, pay prices to farmers are likely to be lower, while retail prices remain about unchanged.

WORLD DAIRY SITUATION AND OUTLOOK

Milk Production Reduced

Cow's milk production for the 38 major producing countries is expected to decline slightly (0.3%) in 1984. Government programs to reduce milk production in the European Community (EC) and the United States are largely responsible for the drop in world output this year. Sharp increases in Oceania were more than offset by declines in the U.S. and the EC. The outlook for 1985 is for world milk production to be nearly unchanged from the 1984 level. More milk is projected for the Soviet Union, India, and here in the U.S. next year. The EC is expected to again reduce production.

The EC declines this year and next are because the quota system appears to be working. Milk production is likely to drop about 2.3% this year and a similar drop is expected next year. Farmers in the EC are adjusting by sending cows to a slaughter (maybe up to 1 million additional cows during April 1984-March 1985) and reducing yields by feeding less concentrates.

New Zealand's milk production was up sharply in 1984 as increasing dairy cow numbers together with a very favorable season for pasture growth resulted in record output. Milk output in 1985 will likely continue at least near this year's high level. Feed and forage conditions continue to be very good and another increase in cow numbers is expected.

Australian milk output rose substantially in 1984 as pasture conditions were favorable. For 1985 milk production may show a slight decline as cow numbers are declining. The drop in production will likely be moderated as seasonal conditions are good.

Soviet Union milk production during 1984 was less than 1% above a year earlier. While first-half output was up over 2%, a summer drought reduced feed supplies which resulted in almost no change in production during second-half 1984 from July-December 1983. For 1985, milk production is projected to again rise by 1 to 2%. The dairy herd is expected to continue to be held at 1984 levels, while output per cow will rise because of better breeding and other technological improvements.

Butter and NDM Supplies Lower

The decline in world milk supplies in 1984 has impacted on the manufacture of dairy products. Butter and NDM production declined by 2% and 7%, respectively. World cheese production in 1984 continued to increase, up about 1%, but well below the sharp year-to-year gains of recent years. The outlook for 1985 is for butter and NDM output to again decline, while cheese production rises by about 1%.

World stocks of cheese and NDM by the end of 1984 are expected to be somewhat lower than a year earlier. Meanwhile, butter stocks are likely to be much larger, with sharp gains in the EC and New Zealand.

World trade of dairy products increased in 1984 and is likely to again rise in 1985, for butter and cheese. However, dairy product prices in international markets have continued weak throughout 1984 and may show little, if any, gain from current levels in 1985 as more than ample supplies of all dairy products will be available for trade next year.

UNITED STATES DAIRY SITUATION AND OUTLOOK

Did the U.S. dairy paid-diversion program work?

It's too early to make a final judgment. On the one hand, we're still producing and marketing about 8 billion more pounds of milk than we will use this year. On the other hand, the program certainly contributed to a reduction in the amount of milk marketed and that was one of the reasons for a sharp drop in surplus removals (purchases) by the Commodity Credit Corporation (CCC). Net purchases from January to November of this year are down 49% from the same period in 1983. Purchases are down because marketings are reduced and commercial use is up. Production this year is likely to be about 136 billion pounds, down 4 billion, nearly 3% less than last year. Milk marketings are likely to be down even more because of additional farm use. Meanwhile, commercial disappearance (a proxy for retail demand) is expected to be about 126 billion pounds, up nearly 4 billion (3%).

Current Price Support Lower

Before looking at the 1985 outlook in detail for supply, use, and price of milk and dairy products, let's review the legislation signed into law last year. That law, entitled the Dairy and Tobacco Adjustment Act of 1983, superseded all dairy provisions of the Omnibus Budget Reconciliation Act of 1982. If you will remember, the 1982 Budget Act was the law allowing the deductions that were held up for a time in court, but finally started on April 16, 1983.

As required by the new law, USDA set the support price for milk at $12.60 per cwt on December 1, 1983. That will be the level of support until September 30, 1985. However, if the Secretary of Agriculture estimates on April 1, 1985, that projected annual CCC purchases would exceed 6 billion pounds, milk equivalent, the support price could be reduced by 50 cents per cwt. An additional 50-cent-per-cwt cut in the support level could be made on July 1, 1985, if annual purchases were projected to exceed 5 billion pounds, milk equivalent.

The law includes a mandatory deduction of 15 cents per cwt for dairy product promotion, research, and nutrition education, but allows up to 10 cents credit for qualifying state or regional promotion programs. An order implementing the promotion program was issued in late March. The deductions for this promotion program started on May 1. Additional promotions under this program started in September. The program must be approved by the dairy farmers to be continued after September 30, 1985.

The law contains a mandatory 50-cent-per-cwt deduction on all milk marketed from December 1, 1983, to March 31, 1985, to encourage the adjustment of production to levels that are consistent with demand. The funds collected will be used to help fund the paid diversion program.

The paid diversion program started January 1, 1984. The payment rate is $10 per cwt for reductions in marketings of 5 to 30% from calendar 1982 marketings, or the average of calendar 1981 and 1982 marketings. Producers who elected to contract signed up by January 31, 1984, for the 15 month program that ends on March 31, 1985.

Nearly 38 000 dairy farmers signed contracts with USDA to reduce their milk marketings. They signed up for a total milk diversion 7.5 billion pounds during calendar 1984, 5.5% of 1983 marketings and 22.9% of their base. In 1983, the participants milked about 19% of all U.S. dairy cows and marketed about 22% of the milk sold. They represent 12% of all operations with milk cows and about 20% of all commercial dairy farms. Because some participants were eligible for program payments for cuts in marketings made by the end of 1983, actual diversions in 1984 are estimated at about 5.3 billion pounds, 3.9% of 1983 marketings.

Production Expansion Ended

Milk production during calendar 1983 was nearly 140 billion pounds, up 4.2 billion (3.1%) from the 1982 record. The gain stemmed from more cows and larger yields per cow than a year earlier. Each quarter of 1983 posted a year-over-year expansion in production, with April-June leading the way with a gain of 3.2%. Production for each of the first three quarters of 1984 has been below a year earlier with July-September down 3.9%. It was nearly 1% below third-quarter 1982.

Milk production for the first 2 months of 1984 was up from a year earlier. January was up 0.1% and February was up 1.8%. February marked the 58th consecutive month of year-over-year increases. However, if adjusted for the extra day, production in February was down 1.8%. Production during October was 4.3% below 1983 and 1.1% lower than 1982. October was the tenth month of the 15-month milk diversion program and the ninth consecutive month of year-over-year production declines. The October drop resulted from 2.9% fewer cows and a 1.2% decrease in output per cow. During January-October, milk production was 3.1 billion pounds (2.6%) below last year.

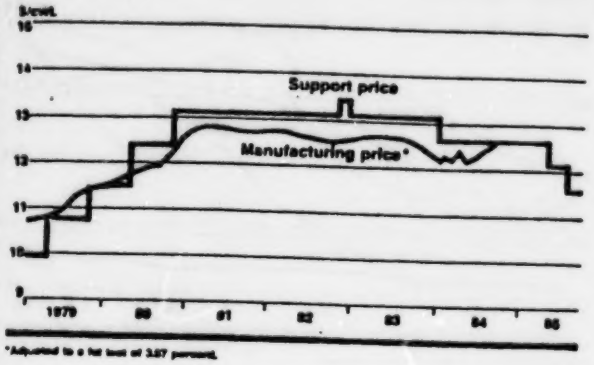
Milk output per cow increased by 2.3% in 1983, slightly more than two times the annual rate of gain for 1982, but approximately equal to the most recent 10-year average of 2.4%. In general, the year-over-year gains in yields slowed throughout 1983. First-quarter yields were up 2.5%, while the fourth quarter posted a 2% increase. The moderation of the gains likely resulted from lower effective receipts for milk marketed after April 15, 1983 (the first 50-cent deduction started April 16), higher feed costs in second-half 1983, and the refundable second 50-cent deduction during September-November 1983.

The slowing has continued in 1984. In fact, output per cow is likely to be down about 0.6% from 1983 because of concentrate feeding reductions and other management changes. The 1.4% drop in output per cow during October is expected to moderate during November-December. With an improved milk/feed price ratio this fall, dairy farmers may increase the rate of grain feeding. In 1985, yield per cow is anticipated to move above year-earlier levels as the effect of the diversion program ends. For the year, output per cow is projected to be up 1 to 2%.

The average number of milk cows on farms during 1983 was up 0.8% from 1982. When combined with gains of 0.6% in 1980 and 1% in 1981 and 1982, last year was the fourth year of an expansion in cow numbers, the longest expansion in the Nation's dairy herd since 1941-44. The average number of milk cows on farms was 0.4% larger than a year earlier in January 1983, but nearly 1% larger in November. The herd increased in size and at a faster pace in 1983 than a year earlier because of a large number of replacement heifers, the relatively low cull cow price, and the unknown direction of the dairy price support program.

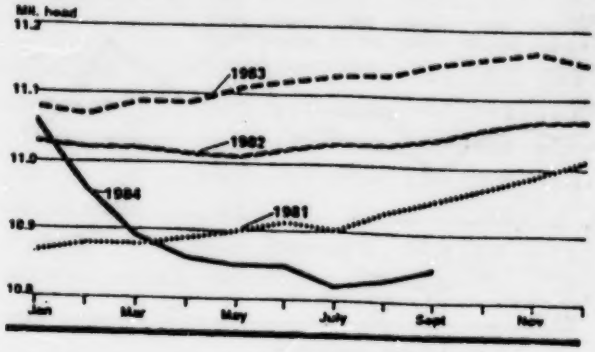
The dairy cow herd during October 1984 was 332 000 head below the November 1983 peak, a drop of about 3%. Some additional declines may occur this fall, resulting in an annual average that is about 2.4% below 1983. Much of the drop during first-half 1984 was because of increased culling by diversion program participants. However, some nonparticipants also reduced their herds because of lower effective returns per cwt of milk marketed and higher production costs. The dairy herd is forecast to start 1985 about 3% below 1984. The number of cows on farms may increase as the diversion program ends, but the gains could be limited because of lower milk (support) prices. For 1985, the average number of cows is projected to be 1 to 2% below this year.

Milk Prices

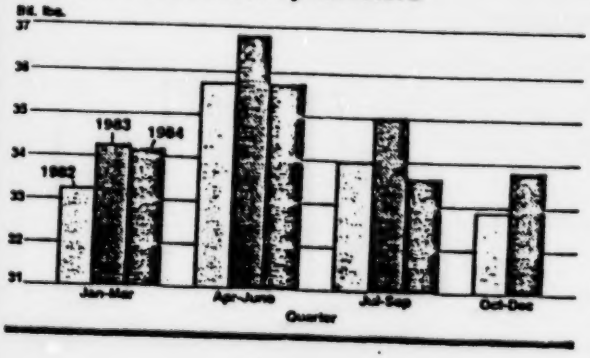


*Adjusted to a fat test of 3.67 percent.

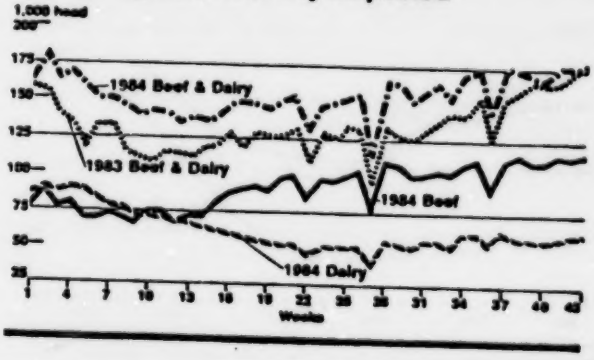
Milk Cows on Farms



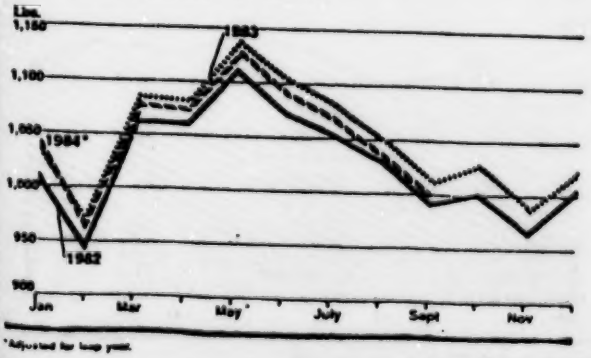
U.S. Milk Production by Quarters



Cow Slaughter, Federally Inspected

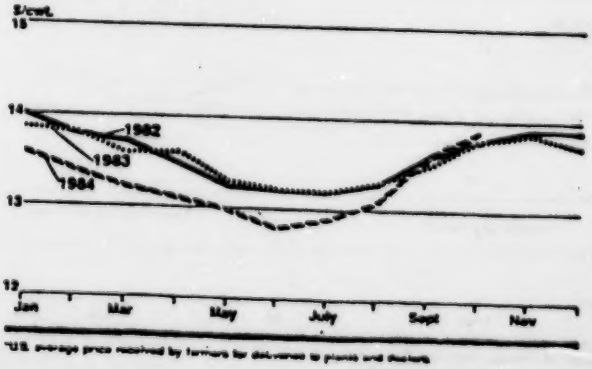


Milk Production Per Cow



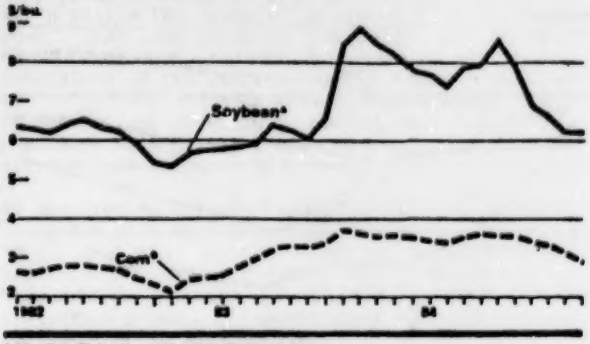
*Adjusted for leap year.

All Milk Prices*



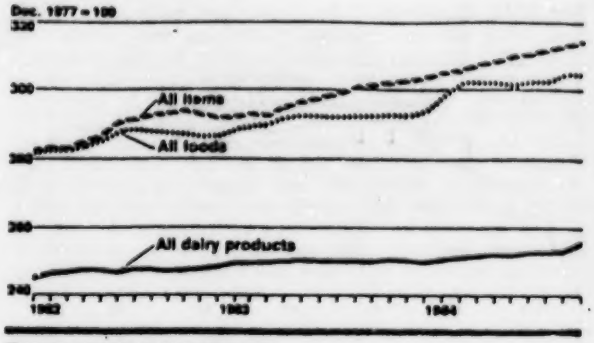
*U.S. average price received by farmers for deliveries to plants and dealers.

Corn and Soybean Prices



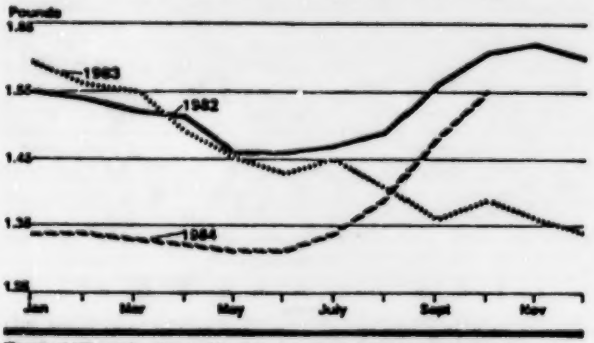
* #2 yellow: St. Louis. * #1 yellow: Illinois processor.

Retail Price Indexes*



*Consumer price index for all urban consumers.

Milk/16-Percent Feed Price Relationship*

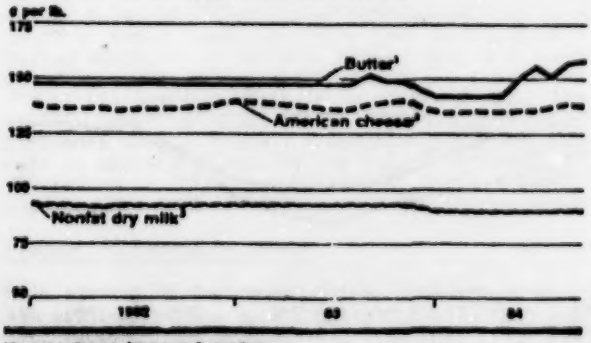


*Pounds of 16% protein ration equal in value to 1 pound of milk sold to plants and dealers.

Commercial Disappearance of All Milk Products*

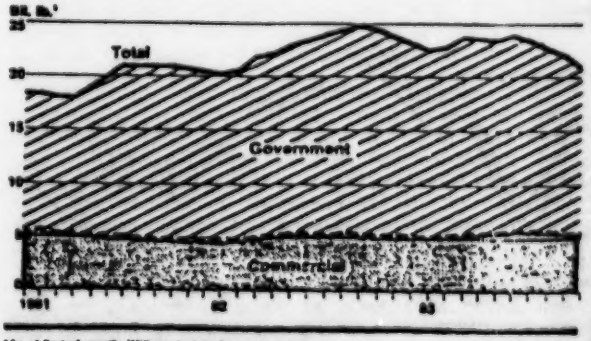
*Milk-equivalent, fat-solids basis.

Wholesale Dairy Product Prices



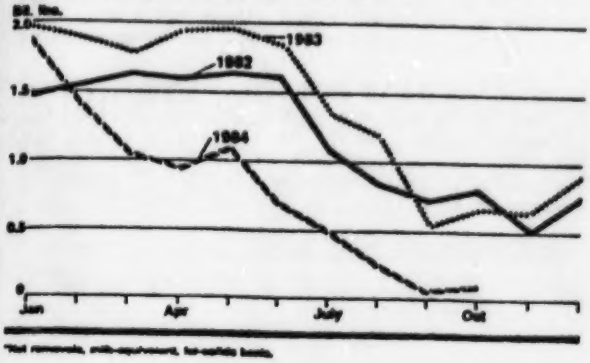
*Grade AA, Chicago. *High-heat, Central States.
*10-lb. block, Wisconsin assembly points.

Dairy Product Stocks*



*As of first of month. *Milk-equivalent, fat-solids basis.

USDA Dairy Product Purchases*



*Net removals, milk-equivalent, for milkfat basis.

Summary

	1983 Bil. lbs.	Percent change	1984 Bil. lbs.	Percent change	1985 Bil. lbs.	Percent change
Production	140.0	+3.1	136.1	−2.8	137.2	+0.9
Marketings	137.0	+2.8	131.2	−4.2	134.0	+2.2
Total supply	144.2	+2.1	139.2	−3.5	141.9	+2.0
Use	122.2	−0.2	125.9	+3.0	128.3	+1.9
Stocks, ending	5.2	+13.7	5.4	+3.2	5.4	—
Total use	127.4	+0.3	131.3	+3.0	133.7	+1.8
USDA net removals	16.8	+17.7	7.9	−52.8	8.2	+3.9

TOBACCO SECTOR AND ITS OUTLOOK

Elmer L. Menzie

INTRODUCTION

The tobacco industry in Canada is important to over 3 000 growers and more than 60,000 individuals in the processing and distributing sector. Producer incomes tend to be quite variable, ranging from $372.8 million in 1981 to $239.8 million in 1982. In terms of total agricultural receipts, tobacco only amounts to about 1.5 to 2%. Consumers spent $4.4 billion on tobacco in 1982 with approximately $2.4 billion of taxes for government revenues.

While the industry is important it is going through some serious adjustment problems. For health and other reasons, consumption of tobacco is under attack and is falling off in most developed countries. Additionally, new areas of tobacco production have been expanding in various parts of the world, at highly competitive prices.

The future of the industry is being challenged. This year the Ontario sector of the industry had considerable difficulty deciding on both price and quantity of sales. The buyers contract with the growers settled on an average minimum price of $1.69 per pound on 170 million pounds. While the price was 6 cents above the previous year the quantity was well below producer expectations. Furthermore, the settlement in the previous year has been described by the growers as "... a big disappointment ..." (8, p.4). The results of the 1984 settlement were not considered satisfactory for either side. Ontario growers estimate their costs to be $1.93 per pound, while the buyers have been facing a restricted domestic market and increasing competition in foreign markets. One author discussing the Canadian situation felt 1984 "... could in many respects mark a turning point ..." in the Canadian tobacco industry development (9, p.48).

TOBACCO AND CIGARETTE PRODUCTION

Canada

Canadian tobacco production is primarily flue-cured with an average of 102 thousand metric tonnes per year for 1974-78 (Table 1). Burley tobacco at one to two million kilograms constitutes less than 2% of the total. Production of small amounts of cigar filler, and other forms of tobacco make up an additional one percent. Canadian production of unmanufactured flue-cured tobacco has ranged from 1.9 to 4.4% of the world total in recent years (Table 3).

Ontario is the major source of flue-cured tobacco in Canada. In 1983 nearly 90% came from Ontario with 6.6 and 3.3% from Quebec, and Prince Edward Island respectively. The remaining small amounts came from Nova Scotia and New Brunswick.

Acreage of flue-cured tobacco in Canada increased by nearly 20% from the late 1970s to the early 1980s, primarily from increases in Ontario. Yields have been highly variable ranging from 1100 pounds per acre in 1982 to 2346 in 1977 (Table 2).

Canadian cigarette production, primarily from flue-cured tobacco has been gradually increasing, although Canada's share of the world total has remained fairly constant at 1.5%. Production averaged 60.2 billion pieces for 1973-77 versus an average of 68 billion for 1980-83 (Table 4).

United States and World Totals

United States tobacco production is primarily flue-cured and burley for cigarette production. Tobacco is produced by about 200 000 farms on 1 million acres. In 1978, farms averaged just over 2 hectares of tobacco (10, p. 2).

Total production of flue-cured tobacco has ranged since 1979 from 370 773 tonnes in 1983 to a high of 530 882 tonnes in 1981 (Table 3). Burley tobacco production has been increasing. In the late 1960s production averaged 260 thousand metric tonnes, whereas it averaged over 318 thousand for 1980-83.

U.S. production of tobacco has been declining in terms of the world total (10, p.38). Total world tobacco production has increased nearly 50% in the past 20 years. The U.S. share of world total has declined from 25% in the early 1960s to about 15% in the early 1980s. During the same period, the U.S. share of flue-cured tobacco declined from 40% to less than 20% and for burley, from 80% to less than 50%. World production of flue-cured tobacco increased from an average of 1.5 million metric tonnes per year in the early 1960s to 3 million in the early 1980s.

China is becoming an increasingly important producer of tobacco. In 1983 China produced 25% of all leaf tobacco and 44% of flue-cured production (10, p.26). India, China and other Asian countries account for over 60% of flue-cured tobacco. These countries plus Brazil and other Latin American countries have been steadily increasing their share of world production.

Cigarette production, the major use for leaf tobacco, has also been growing (Table 4). United States production grew slowly to a peak of 736.5 billion pieces in 1981 and declined to 667 billion in 1983. This amounted to about 10 times Canadian output but only 15 to 16% of world production. Asia produces one-third of the world cigarette total with China alone at 21% in 1983. China's cigarette production has nearly doubled from the 1974-78 average. West Europe including the U.K., produced about 16% and Japan another 7%. Latin America and Africa are also fairly significant producing regions.

TOBACCO CONSUMPTION

Total consumption of tobacco world wide continues to increase slowly primarily "due to the expanding off-take of tobacco products in developing countries where incomes are rising, anti-smoking lobbies have a low profile and the population is growing" (3, p.9). Tobacco consumption in much of the developed economies has either stagnated or

declined. Cigarette consumption in 5 West European countries plus the U.K., Canada and the U.S. was almost identical in 1981 and 1982 to 1974 and 1975. On a per capita basis there was a decline in consumption of 25% in the U.K.

"Cigarette smokers are a declining proportion of the Canadian population. A gradual downward trend has been evident since 1966 when about 68% of men and 40% of women aged 15 and older were cigarette smokers. By 1981, it was estimated that the proportions had fallen to 42% of men and 37% of women" (2, p.5). While the percentage of smokers has declined the absolute number has risen in the past 20 years by about 10% as population has increased. Additionally the consumption per capita by smokers has increased by over 20% (Figure 1). As a result total consumption in Canada has risen by over 40% since 1969 (5, p.18).

Total cigarette consumption in the U.S. rose fairly steadily to a peak of 640 million cigarettes in 1981 and declined to 600 million in 1983 (5). Per capita consumption (based on adults 18 years or older) has declined steadily from 4148 cigarettes in 1973 to 3494 in 1983 (10, p.12). The number of pounds of tobacco used in cigarettes per capita has declined more dramatically, from 10.4 in 1952 to 6.0 in 1983. A number of factors have contributed to the reduction in tobacco use per cigarette including the use of filters and leaf expansion techniques.

In addition to the reduction in total leaf weight per cigarette, in the U.S., there has been a significant change in the raw product mix. Pounds of flue-cured leaf declined from 1.595 per 1000 cigarettes in 1953 to .608 in 1982 (10, p.8). Burley tobacco declined from .915 to .563 and imported leaf rose from .182 to .519 for the same year. The change in the mix is considered to be largely a function of relative prices.

INTERNATIONAL TRADE

Unmanufactured Tobacco

World trade in both unmanufactured tobacco and in cigarettes has been expanding. Total world tobacco exports rose from 700 thousand metric tonnes in the early 1960s to over 1400 thousand in 1981 and 1982. Flue-cured tobacco exports rose from 350 thousand metric tonnes to over 600 thousand.

Canadian exports of flue-cured tobacco have varied significantly from year to year but have not demonstrated any trend. From 1978-82 exports ranged from 18 600 to 32 100 metric tons. Canadian share of exports generally are about 4% of the world total flue-cured exports but only about 2% of all unmanufactured tobacco exports (Table 5).

Canadian exports have been primarily to the U.K. However, these exports declined from 28 430 tonnes in 1974 to 8315 in 1983. The U.S. is Canada's second major market with other European countries third.

The U.S. exports of all tobacco have not changed significantly in the past 20 years but the relative position has declined. In the late 1950s the U.S. supplied over one-third of all exports, whereas in 1981 and 1982 they were only 18% of the total. The U.S. share of both burley and flue-cured tobacco exports dropped from 60 to 25% for the same period. The U.S. remained the largest exporter of flue-cured tobacco in 1982, with Brazil second at 19.2% followed by India with 13.2% and Zimbabwe with 12.6%. Brazil's exports expanded at a rapid rate, increasing from 9.9% of the world flue-cured exports in 1973-77. Brazil obtained nearly 50% of the export growth from the 1973-77 period. Zimbabwe, India and Argentina were the other main benefactors.

The major importing region for unmanufactured tobacco has been the European community. Their imports have been declining but were still at 36% in 1983. The United States has been a growing market for tobacco exports at about 15% of the total. Other major importers are other parts of Europe and Japan.

Cigarettes

Total trade in cigarettes has been increasing at a significant rate. Total exports were 360.4 billion pieces in 1982 for an increase of over 60% from the average of 1973-77. Canadian exports are very small, amounting to 0.2% of the total.

The primary exporters of cigarettes are West Europe and the U.K. with 44% in 1982. Exports from East Europe amount to about 25%, from the United States 20% and Asian countries (exclusive of Japan) 8.4%. Some shifts in sources of exports have occurred since the mid 1970s. The U.S. declined from 24 to 20% while West Europe and the U.K. share rose from 38.4 to 44%. Asia doubled its share from 4 to 8.4%. East Europe declined from 29 to 25%.

Canada imports about the same quantity of cigarettes as it exports. West Europe including the U.K. and East Europe, each take about one-third of the cigarette imports and Asia about 20% (Table 6).

Thus the U.S., the U.K. and West Europe are the major net exporting regions while East Europe and Asia are major net importers. East Europe shifted from being a small net exporter up to 1981 to a significant net import position in 1982. Since this was only a one-year observation it cannot be concluded the situation will continue. Indications are that cigarette production levelled in 1983. Exports declined with the U.S. being a major loser (12, p. 28).

CHANGING DEMAND, PRICES AND TAX POLICIES

As indicated in the section on consumption the demand for tobacco in the traditional growth markets of Western Europe and North America has been declining. Recent year growth markets have been largely in developing countries and in Eastern Europe, China and other parts of Asia. While the numbers of cigarettes used in Canada has grown as has apparent consumption per smoker, the numbers of smokers has declined significantly. In the U.K. cigarette consumption in total has fallen since 1974. In the U.S. total demand has declined since 1981. Both the U.K. and the U.S. have had sharp drops in per capital usage since 1975 (5).

There are many reasons cited for the decline in consumption in a number of countries. Primary among these has been taxation policies which have forced prices upward and health related issues causing a reduction in use.

A number of studies have attempted to determine the elasticity of demand for tobacco. Most of the estimates suggest the demand is relatively inelastic at about -0.7 in the short run and probably as high as -1.0 in the long run (2).

Rising prices can be expected to cause a decline in consumption. However, in spite of rising nominal prices, cigarette prices in Canada declined in real terms (Figure 1) from 1969-82. In 1983 real prices rose by 14% over 1982, primarily as a result of tax increases and consumption fell. The tax increases in 1984 were dampened by a decision to change the Federal tax formula ty tying it to the lower Consumer Price Index which reduced the tax increase from 16.9 to 4.9%, going into effect September 1, 1984 (9, p.48). However, sales were already down significantly in 1984, reflecting consumer reaction to the higher prices.

The Canadian tobacco industry is concerned about the increasing taxation rates. In 1982 it was estimated that taxation took 53 cents out of each consumer dollar spent on tobacco with 26.9 cents for federal and 26.1 cents for provincial taxes (Table 7). The grower received 5.4 cents from each dollar spent. Thus of the $4.4 billion spent by consumers in 1982, over $2.3 billion went for taxes. Provincial sales taxes in 1984 ranged from 30 cents per pack of 20 cigarettes in Alberta to $1.19 in Newfoundland. In Ontario the rate was 65 cents.

Heavy increases in excise duties in the U.K. are considered to be a factor in consumption declines there. In the U.S. prices of cigarettes rose by 22% from 1982 to 1983. Smoking was off in 1983 and 1984. "Higher Federal and State excise taxes probably contribute most to the decline, but continued antismoking activity and restrictions on where people can smoke may also be responsible" (12, p.4). Cigarette prices are significantly lower in the U.S. than Canada and taxes take about 30% of consumer expenditure versus 53 in Canada. Both state and federal governments in the U.S., have been raising taxes but the Federal excise tax, raised to 16 cents per pack, January 1983, will revert to 8 cents on October 1, 1985 (11, p.2).

Generally improved incomes lead to increased product consumption. Except in poorer countries of the world, tobacco consumption appears to have little, if any affect from rising incomes. In fact, a recent Canadian study suggests the impact of rising incomes on Canadian tobacco consumption may even be negative (4). The explanation for this inverse relationship could be that higher levels of education are associated with higher incomes and this leads to reduced consumption because of health and related issues.

The health related issues are becoming of increasing concern to the tobacco industry. As public concerns rise, restrictions on smoking and the advertising of tobacco products become more severe. For example, recent legislation was passed in the U.S. House, which would require four separate warning labels to be used on cigarettes on a three-month rotation system. All of the warnings have to do with various health risks from smoking.

There is little evidence the pressure to reduce smoking will not continue to grow. In fact, the impact of the "no-smoking" campaigns are likely to be felt, also in the lower income areas of the world where consumption is still rising as incomes rise. There is a growing public concern not only for immediate health hazards to individuals but with respect to the direct or indirect costs, as well as personal annoyance to non-smokers by smokers. A recent study published in the Canadian Journal of Public Health, estimates the costs of tobacco use to be relatively high. Based on 1979 data the total costs were calculated at over $5 billion or nearly $1 billion more than the total Canadian expenditure on tobacco in 1982 (1, p.197). About 3.4 billion was attributed to foregone earnings resulting from death; 6.6 million was the cost of disability; hospitalization and physician costs were 1.1 billion and fire damage $85 million. It is obvious the level of such estimates are highly dependent on the assumptions used in the relationships of tobacco to disease and other costs. They are nevertheless impressive, even if discounted by 50%, and the authors felt they had already used conservative estimates.

The anti-smoking arguments tend to have double impacts. In the first instance they reduce the demand for tobacco products, and in the second they reinforce the basis for continued or growing taxation. The higher tax is perceived to reduce consumption and to help pay some of the costs associated with smoking. These tend to produce much stronger arguments for support of high tax levels than the usual case for tax on luxuries.

OUTLOOK FOR THE CANADIAN TOBACCO INDUSTRY

It is evident that consumption patterns are under stress in traditional markets including Canada. In addition to the downward pressures on demand, manufacturers have been economizing by using less tobacco in cigarettes and making more efficient use of the raw product. Domestic markets in both Canada and the U.S. are unlikely to show significant growth and indeed may continue the recent decline.

Canada has depended on export markets for 30 to 40% of its sales. In recent years these exports have been increasingly difficult to secure. Growth in production in lower cost areas such as Brazil, India, Malawi and Zimbabwe is likely to increase the intensity of world market competition. Furthermore, potential growth in production in areas such as China, where flue-cured tobacco production has nearly doubled in the past 5 years and cigarette production is up by 50%, is unknown. Chinese production, not currently a factor in international trade, could become significant if output growth continues and if rates of growth in consumption begin to decline. (China's flue-cured tobacco production in 1982 and 1983 was nearly 4 times U.S. production in those years.)

Production in the U.S. is becoming an increasing problem. Imports are growing yearly, displacing domestic product. U.S. exports have declined relative to the world total since the late 1960s and in absolute terms since 1978. Associated with this declining position stocks in the U.S. have grown to about 50% above desirable levels.

The declining competitive position of the U.S. and Canada in world markets is considered to be primarily a function of relative prices. In 1983, the landed value of flue-cured tobacco from Brazil, in the United Kingdom (exclusive of duty), was only 68% of the Canadian landed value. Similarly, tobacco from India was only 60% of the Canadian value. The Zimbabwe price was similar to Brazil. U.S. tobacco was nearly 30% above the Canadian value (5, p.39). There is general agreement in the industry that U.S. tobacco has superior quality characteristics which permit it to sell at prices above other producing areas. Canadian tobacco is considered to be of lower quality than the U.S. but higher than most other competing countries. The combination of a decline in growth in domestic markets and the growing level of price differentials among competing export countries has resulted in shifts in buying patterns by tobacco product manufacturers. Unless these price differentials are reduced the problem of retention of markets will continue and if the spread gets greater, more markets will be lost by North American producers.

Canadian producers, of course, face an even more precarious position than the U.S. The Canadian domestic market is small and probably will decline. Imports into Canada have been relatively small, so little can be gained by stopping them. Of course, if domestic prices are raised to higher levels thereby attracting more imports, given current tariff and exchange rate differences, quotas would become necessary. Raising prices would of course make exporting even more difficult and further jeopardize the export market.

The U.S. producer has a relatively large domestic market. Furthermore, imports supply about one-fifth of that market and import restrictions could provide significant benefits to domestic producers. In recognition of this the U.S. International Trade Commission was asked this fall to review the desirability of imposing quotas or fees on tobacco imports (12. p.12).

If the U.S. imposes quotas, Canadian exports could be further reduced since the U.S. has traditionally been one of Canada's major markets. Additionally there is some possibility the U.S. may significantly modify its programs in the coming years. The acreage control program has forced production in uneconomic areas, in relatively small units. It has also generated costs associated with production rights. One study (7) estimated that without the control system production would shift to lower cost areas and output would grow by 50 to 100%. It was estimated that costs would be reduced sufficiently under the new structure to make U.S. tobacco highly competitive in both domestic and world markets.

The likelihood of major program changes in the U.S. is unknown. However, it is known there are pressures to reduce imports and to get rid of burdensome stocks. Discounting of prices is being done on older stocks in order to reduce the supply. Additionally, worldwide there is undoubtedly significant growth potential in production. Third world markets can be expected to continue to grow in demand at least for the near future but competition for those markets will continue to be severe.

While the Canadian production and marketing system has been less restrictive in some respects than the U.S., the industry faces some of the same options. Controls have generated rents for production rights which add to industry costs. Similarly restrictions on production have reduced the individuals ability to realize economies from a fuller use of resources and have likely impeded the shift of production to the most efficient producers. If no adjustments are made in the control program it would appear Canadian producers face almost certain further market declines as they become less competitive internationally. There is a possibility of meeting international competition by applying a more vigorous two-price system and permitting expansion of production for export on a competitive basis. However, such an alternative may not be politically acceptable even if there are economic arguments for its support. Alternatively, of course, producers could opt for a less restrictive system permitting the realization of some cost economies which could make the industry more competitive internationally.

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TABLE 1. CANADIAN FLUE-CURED TOBACCO PRODUCTION

Province	Five Year 1974-78	1979	1980	1981	1982	1983
			Metric tonnes			
Ontario	94 491	67 676	97 523	97 796	66 658	97 466
Quebec	5 047	5 769	5 965	6 800	6 460	7 201
P.E.I.	2 194	2 667	2 291	3 121	3 363	3 650
N.B.	209	281	236	293	312	284
N.S.	420	435	411	567	613	433
Total	102 361	76 828	106 426	108 577	77 406	109 034

Source: Statistics Canada

TABLE 2. ONTARIO FLUE-CURED TOBACCO, ACREAGE, PRODUCTION AND PRICE

Crop Year	% of Allotment	Acreage Grown	Production '000 lbs	Production Per Acre	Price per lb
1971	50	81 270	201 779	2 483	65.00
1972	54	86 701	166 741	1 925	77.99
1973	67	104 679	232 791	2 224	79.40
1974	71.4	108 761	238 064	2 189	90.17
1975	58	87 702	209 581	2 390	94.02
1976	45.5	82 604	159 048	1 925	102.09
1977	49.5	87 300	204 848	2 346	109.44
1978	59.9	100 000	229 587	2 296	118.44
1979	59.9	96 500	149 229	1 546	136.47
1980	58.8	110 000	213 696	1 942	136.47
1981	57.3	118 968	219 387	2 058	151.95
1982	61.9	115 000	153 569	1 118*	161.79
1983	55.9		214 873		163.37

*Yield determined after deducting 25 million lb carryover from previous crop.

Source: 2. Roy Richards, A Survey. The Ontario Flue-Cured Tobacco Industry, Agriculture Canada, March 1984.

TABLE 3. UNMANUFACTURED WORLD FLUE-CURED TOBACCO PRODUCTION (FARM WEIGHT - METRIC TONNES)

Country	1979	1980	1981	1982	1983
Canada	76 735	105 890	110 525	67 463	108 000
United States	428 996	492 646	530 582	456 510	370 973
India	142 800	100 900	117 000	137 700	175 000
China	806 000	717 000	1 279 000	1 848 000	1 300 000
Other Asia	298 331	291 812	300 305	340 423	326 605
Zimbabwe	111 687	122 571	67 356	89 387	94 934
Brazil	237 000	228 000	205 000	248 000	234 000
World Total	2 471 491	2 406 849	2 974 423	3 568 124	2 990 750
Canada % of World	3.1	4.4	3.7	1.9	3.6

Source: USDA, Foreign Agricultural Service, Foreign Agricultural Circular FT-12-83, Washington, December 1983.

TABLE 4. WORLD CIGARETTE PRODUCTION (IN MILLIONS OF PIECES)

Country	Average 1973-77	1978	1979	1980	1981	1982
Canada	60 197	62 106	65 443	67 180	68 611	68 143
United States	657 934	695 900	704 400	714 200	736 500	694 200
U.K.	157 100	157 576	153 110	155 618	149 640	144 610
West Europe	516 975	542 934	567 747	579 162	584 396	583 042
Japan	288 131	302 574	308 260	303 177	306 624	308 700
East Europe	672 511	712 453	707 252	721 004	727 255	734 958
Latin America	260 493	299 642	307 261	314 611	300 307	294 515
Asia	1 222 814	1 087 954	1 181 693	1 317 343	1 464 049	1 518 805
World Total	3 821 488	4 073 304	4 211 511	4 398 642	4 566 716	4 578 406
Canada % World	1.6	1.5	1.6	1.5	1.5	1.5

Source: USDA Foreign Agricultural Service, Foreign Agricultural Circular, FT-7-83 July 1983.

TABLE 5. WORLD FLUE-CURED TOBACCO EXPORTS -- MARKET SHARE BY COUNTRY

Country	Average 1973-77	1978	1979	1980	1981	1982
United States	34.8	33.3	30.0	29.2	26.2	25.0
India	13.3	10.7	10.7	10.6	13.5	13.3
Brazil	9.9	11.3	14.8	14.8	15.6	19.2
Zimbabwe	12.1	12.0	10.5	17.3	17.2	12.6
Republic of Korea	5.1	4.8	3.3	2.5	2.3	3.1
Canada	4.1	4.1	5.6	3.1	4.8	4.4
Thailand	2.8	4.2	4.4	4.2	3.7	3.2
Malawi	2.8	4.0	3.5	3.8	2.4	3.0
South Africa	1.2	1.4	0.9	1.0	0.7	0.2
Philippines	1.8	1.7	1.9	1.0	1.7	2.0
Zambia	0.8	0.4	0.5	0.3	0.2	0.2
Argentina	1.1	2.0	2.6	1.7	1.7	3.0
Italy	0.7	0.4	0.6	0.6	0.8	1.3
Other	9.4	9.7	10.7	9.9	9.3	9.5
Total World Exports '000 metric tonnes	100.0 531.1	100.0 619.7	100.0 560.5	100.0 607.9	100.0 668.4	100.0 631.7

Source: USDA Foreign Agricultural Service Circular, Tobacco F7-9-83, September 1983, p. 33.

TABLE 6. CIGARETTE IMPORTS INTO SELECTED COUNTRIES -- IN MILLIONS OF PIECES

Country	Average 1973-77	Year 1978	1979	1980	1981	1982
Canada	476	541	620	706	724	799
United States	271	990	1 069	1 017	526	581
West Europe	53 519	62 278	83 727	90 513	81 081	91 028
East Europe	60 718	62 886	66 247	66 365	91 456	105 521
Asia	40 390	61 868	75 670	68 378	66 374	60 358
World Total	176 057	213 889	255 577	255 403	269 114	289 431
Canada % of World	0.3	0.3	0.2	0.3	0.3	0.3

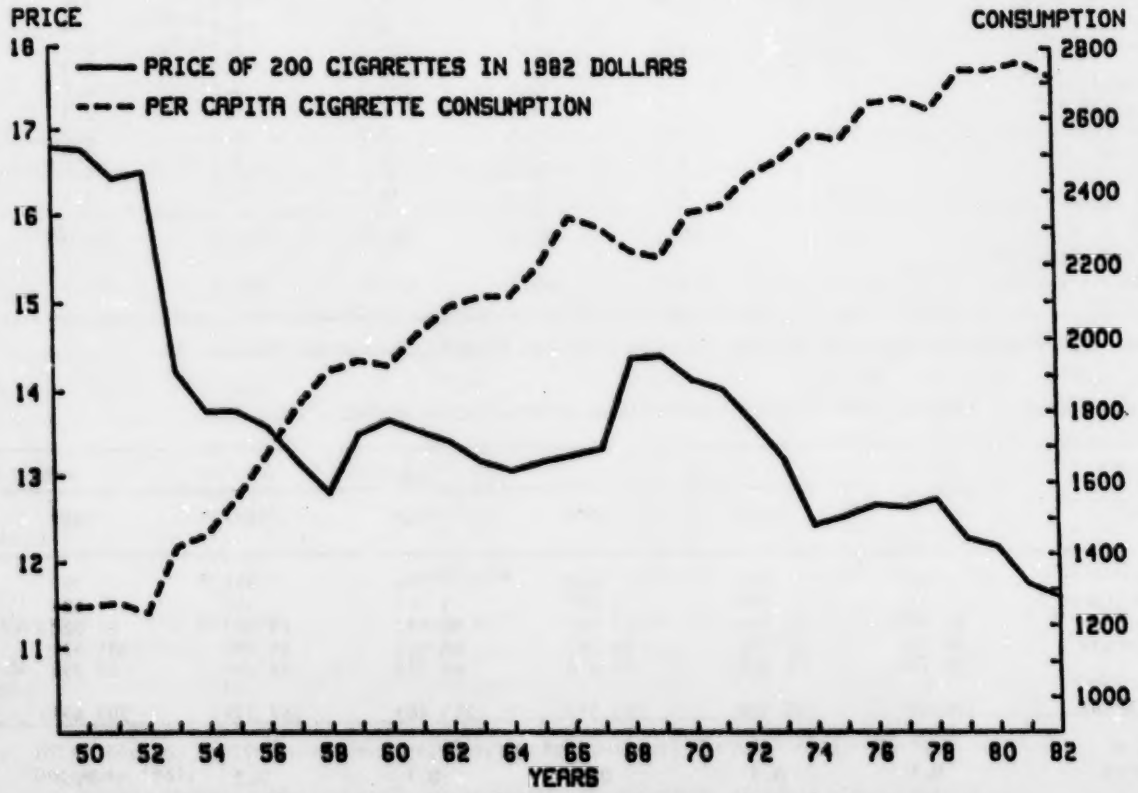
Source: USDA Foreign Agricultural Service, Foreign Agricultural Circular FT-7-83, July 1983.

TABLE 7. CONSUMER EXPENDITURE FOR TOBACCO PRODUCTS, CANADA, 1982

Sector	Consumer Expenditure	
	Billions of Dollars	Expenditure (%)
Retailers	0.66	15.0
Wholesalers	0.16	3.6
Manufacturers and Processors	1.02	23.0
Growers	0.24	5.4
Federal Taxes		
Sumptuary	0.80	
Sales	0.33	
Sub-total	1.19	26.9
Provincial Taxes		
Sumptuary	0.95	
Sales	0.20	
Sub-total	1.15	26.1
Total	4.42	100.0

Source: Peat, Marwick and Partners. Economic Impact of the Tobacco Industry in Canada for 1982. Canadian Tobacco Manufacturers' Council: Montreal, 1982.

FIGURE 1: ANNUAL PER CAPITA CONSUMPTION BY CANADIANS, AND PRICE OF 200 CIGARETTES IN CONSTANT 1982 DOLLARS, 1949-82.



Source: Bureau of Tobacco Control and Biometrics, Laboratory Centre for Disease Control Department of National Health and Welfare, Agriculture Canada, Working Paper 12/84

PROVINCIAL FARM INCOME SITUATION AND OUTLOOK1

Peter Lys

Providing accurate income and expenditure projections at the provincial level is somewhat more difficult than projecting national estimates. The national realized net farm income estimate can fluctuate greatly with a relatively small change in either the receipts or expenditure projections. This situation is amplified when discussing the more variable provincial estimates.

Nevertheless, it is considered important that provincial projections accompany the national projections in order to assist those involved in agri-business to prepare for the year ahead. I will begin my presentation by first summarizing our findings for the National Outlook.

George Andrusiak indicated earlier that realized net farm income would be 14% above the 1983 level and reach $3.8 billion. This increase was attributed to a 7% increase in farm cash receipts, more than offsetting a 5% increase in farm operating expenses and depreciation charges. For 1985 the situation is not as positive, but nevertheless realized net farm income is not expected to change much at the national level. Provincial variation is much more pronounced. Farm receipts are projected to be up in all provinces, ranging from +2% in Alberta to +18% in Ontario. Increases in expenditures are also anticipated for all provinces but with a smaller variation. Provincial expenditure increases including depreciation are projected to increase from 4% to 8%.

Regional production differences impact on the provincial composition of farm receipts. Newfoundland receipts are largely dependent on the poultry sector. P.E.I. and New Brunswick are dependent on potatoes, Nova Scotia and British Columbia have similar receipt composition with horticulture, poultry and dairy products being key weights categories. Manitoba and Saskatchewan are more crop dependent. Saskatchewan is clearly wheat based, while Manitoba has a greater variety of crop receipts. Alberta and Ontario are perhaps the most diversified.

If we can project the key items well, then it follows that a good portion of our projections will be accurate.

On the expenditure side one does not see the same regional differences. What one does see is that five items are generally the largest in each province. These are machinery, fertilizer, interest, feed and depreciation charges.

NEWFOUNDLAND

The current projection for Newfoundland's farm cash receipts is for an increase of 11%. This increase will be realized despite a decline in crop receipts. Contributing to the increase in receipts were poultry and eggs. Poultry receipts increased in all provinces due to increased prices. Expenditure levels also increased due to higher feed and other livestock expenses, up 10% and 9% respectively.

For 1985 we are projecting a slight decline in farm cash receipts. As poultry receipts dominate Newfoundland's overall farm receipt figure, one might consider poultry as the leading indicator for Newfoundland's agriculture. Many livestock receipt items will rise in 1985, but these will be offset by the decline in poultry receipts so that total livestock receipts might decrease by about 1%. We are also projecting expenditures to increase in 1985 but not at the rate seen in 1984. Interest expenditures are projected to decline while we anticipate virtually no change in feed expenses.

PRINCE EDWARD ISLAND

For Prince Edward Island we are presently projecting a large increase in realized net income for 1984. Farm receipts are projected to increase 10% and expenditures by 7%, resulting in a 22% increase in realized net income above 1983 levels. One major factor behind the 10% increase in receipts is the estimated 10% increase in potato receipts. January to September farm cash receipts in Prince Edward Island, an estimate which we consider more reliable than our projections, are already 19% above the corresponding period from one year ago. Livestock receipts will also be higher in Prince Edward Island due mainly to increased hog receipts. As in Newfoundland, poultry and egg receipts were up although the major contributors to increased livestock receipts were hogs and dairy. On the expenditure side, all categories are expected to show some increase for 1984, with significant increases in feed, fertilizer, seed, fuel and machinery repairs.

For 1985 our present projections indicate a decline of 5% in farm cash receipts. Receipts are projected to decrease mainly as a result of falling potato prices. Potato marketings are assumed to be at 1984 calendar year levels and thus potato receipts are projected to be down $12 million. This decline will more than offset increases in hog and dairy receipts. Farm expenditures in 1985 will continue to rise despite the projected decrease in interest expenditures. Overall expenditures are expected to increase only 2%, partly due to smaller increases in the prices of some inputs such as fertilizer. Also the federal fuel tax rebate should result in more stable fuel expenditures in 1985.

Realized net income is projected to decline 25% in 1985. Prince Edward Island illustrates the point where projecting becomes a hazardous activity. One's assumptions do not have to be off by very much on either the receipts or expenditure side to significantly change the realized net income projection.

NOVA SCOTIA

Nova Scotia's agriculture is dominated by the livestock industry, the livestock industry in Nova Scotia is in turn dominated by supply managed

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1 Note: While this paper was given at the Farm Cost and Income session of the Outlook Conference it is published between the third Plenary session Farm Income Outlook paper and the Farm Income tables to assemble in one part of this document all information regarding Farm Income.

commodities (milk, eggs and broilers). These commodities registered a combined increase in receipts of 7% in 1984. Hog receipts were also up in Nova Scotia as both prices received and quantities marketed increased for the year. Total livestock receipts were 7% higher, leading total receipts to a 10% increase. Overall expenditures increased 5%, fueled mainly by a 7% increase in commercial feed costs.

For 1985, we project continued increases in receipts for hogs, dairy and other livestock items such as fur, wool and honey. Expenditures are also projected to increase but only by 2%. Interest expenses will decline by 2% if our interest rate projection is attained, and will contribute to the slow-down in expenditure increases. Feed expenditures for the provinces are projected to increase 2% as higher utilization is expected.

NEW BRUNSWICK

Receipts in New Brunswick are projected to increase by 18% in 1984. This is the strongest increase in provincial farm cash receipts expected in Canada for 1984. A portion of this increase can be attributed to increased potato receipts as higher prices were realized throughout the year. Net non-grain cash advances, that is cash advances paid for crops such as potatoes, tobacco and vegetables, are also anticipated to be higher in 1984. One must remember, however, that advances are somewhat like a loan and will have to be paid back out of future deliveries. On the livestock side we project an increase of $1.4 million in hog receipts and, like most other provinces, dairy, poultry and egg receipts will record increases.

We are presently projecting an increase in farm expenses of 8%. Interest charges were up in New Brunswick as the changing farm debt structure shifted towards more short term debt. Machinery expenses, including fuel, were also 8% higher in 1984. With the 18% increase in Farm Cash Receipt more than offsetting the 8% increase in expenses, Realized Net Income is projected to increase by about 53%.

For 1985 the present indication is that receipts will fall from 1984 levels. Livestock receipts will be somewhat higher, but crop receipts likely will be down $16.5 million. Projected increases in livestock receipts were the result of higher hog prices. Total crop receipts are projected to decline due to lower potato prices. With no changes in feed costs and a lower interest expenditure, total expenses could be restrained to an increase of 1% for 1985. With decreases in receipts and little change projected for expenditures, 1985 realized net income should decline $12 million or 20%.

QUEBEC

Both crop and livestock receipts are projected to be higher in 1984 relative to 1983. Crop receipts will be led by increased corn receipts. Higher prices and increased marketings contributed to a projected $19 million increase in this estimate. On the livestock side no change in cattle receipts are anticipated as reduced slaughter numbers and increased prices should cancel one another out. Hogs receipts could be $25 million higher while increases in receipts should also be realized for dairy and poultry items. Expenditures on interest, feed, miscellaneous crops and livestock expenses increased substantially. Total expenditures are projected to increase 6% while receipts may increase 9%, resulting in a 17% increase in realized net income.

In 1985 continued increases in hogs sales will lead to a 3% increase in total cash receipts. Lower interest and feed costs should restrain expenditure increases so that 1985 total expenditures will increase by only 1%. If these projections prove accurate then realized net income in 1985 for Quebec will increase by a further 10%.

ONTARIO

In Ontario farm cash receipts could increase 7% in 1984. Wheat, vegetables and net non-grain cash advances all contributed to an increase in crop receipts. On the livestock side, higher cattle prices offset declines in the number of cattle slaughtered, resulting in little change for this particular item. On the other hand, receipts from hogs, dairy and poultry all increased in 1984. Total receipts in Ontario are projected to increase by 7%. On the expenditure side, operating expenses will increase but not as fast as in most other provinces. Significant increases in feed and fertilizer expenses are expected to be partially offset by lower rent expenses and only small increases in most other expenses. Realized net income will increase 22% if these projections are realized. The projected increase in Ontario Realized Net Income has contributed significantly to the 14% increase in the national Realized Net Income estimates.

For 1985, our projections are that neither farm receipts nor farm expenses are expected to change much. As a result, realized net income is not expected to change. Hog prices likely will continue to rise as will dairy prices. Virtually no change is anticipated for poultry in 1985 as higher volumes are offset by lower prices. For cattle, the reverse is true, but with the same result higher prices with lower volumes. Despite decreasing prices for corn, the record Ontario corn crop will likely result in higher marketings for 1985 and it is our opinion that increased volumes will offset the decline in prices. On the expenditure side we again projected increases in expenses but at a relatively moderate rate. Feed costs should fall, as will interest expenses. Realized net income should be about equal to the 1984 levels.

MANITOBA

Manitoba was not affected by the prairie drought to the same extent as either Saskatchewan or Alberta. Crop receipts are expected to be $100 million higher in this province than in the previous year. Part of this increase can be attributed to the Western Grain Stabilization payments announced this year of which Manitoba received $36.1 million. Higher canola and flaxseed prices also contributed to the increase in farm receipts from crops. On the livestock side, cattle and calves receipts increased marginally as reduced slaughter was offset by increased prices. Hog receipts were also up by $23 million, while eggs and poultry receipts increased in Manitoba as they did in all other provinces. On the

expenditure side, interest expenses are projected to be up and machinery expenses, including fuel, are also expected to increase. Increased fuel charges result mainly from increased acreage this spring. We have also seen an increase in fertilizer expenses as prices increased and the quantities used were also higher.

For 1985 farm cash receipts are projected to be up 2%. Wheat and barley receipts are projected to decline as marketings will fall off. Offsetting these decreases are additional receipts from alternative crops such as mustard seed and sunflowers. On the livestock side, both hog and chicken production are projected to be higher. In the case of poultry, prices are expected to decline in line with other provinces. Total expenditures are projected to increase only slightly and Realized Net Income to increase about 7%. It is expected that Manitoba will have a stronger income increase than either Saskatchewan or Alberta.

SASKATCHEWAN

Crop receipts are projected to be higher in 1984 than in 1983 despite the drought reduced crop. As mentioned in the address given by George Andrusiak, this finding is somewhat surprising at first. It appears that producers are delivering a greater proportion of their crop in the August-December portion of the crop year, and are balancing cash flow in both 1984 and 1985 using deferments. In addition, crop insurance payouts of $220 million and the Western Grain Stabilization Act payout of $126 million has assisted in keeping total crop receipts at similar levels relative to 1983. Rapeseed/canola receipts were also higher mainly due to higher prices received in the first half of this calendar year. On the livestock side, hog receipts are higher due to a large increase in slaughter as well as some increase in price. Poultry and egg receipts were also higher. On the expenditure side, interest, feed and fertilizer costs were all projected higher. Fertilizer proved to be an interesting item this year as Saskatchewan's purchases were high relative to other provinces and high relative to Saskatchewan's historical levels. Fertilizer prices increased in 1984 from their low 1983 levels.

With the increase in receipts, realized net income is expected to increase by up to 15% as expenditure increases were offset by increasing receipts.

For 1985 the projections for receipts assume a return to normal crop yields, and positive level in net deferments. The situation regarding deferments is interesting as producers will have increased their deliveries in the August-December portion of the crop year and are also deferring much of this income into 1985. This will have the effect of balancing income between the two years. Notwithstanding these assumptions, receipts from crops, particularly wheat, barley and rapeseed, will be down in 1985. Reductions in wheat and barley receipts are due to reduced marketings as supplies will be down. On the livestock side, hogs will continue to increase but at a slower rate than seen in 1984. On the expenditure side, we do not expect to see as large an annual increase in fertilizer expenses as in 1984. The relatively small increase in fertilizer and rent expenditures, in conjunction with a decline in interest and feed expenses, will result in a 1985 realized net income of approximately the same size as 1984.

ALBERTA

Alberta quantities of wheat and rapeseed are projected to fall in 1984. In the case of barley and rapeseed, prices are expected to be somewhat higher this year compared to last year. Crop insurance payments of $155 million and Western Grain Stabilization payment of $59.4 million helped offset the degree to which receipts would have fallen. As in Saskatchewan, we have assumed a high level of deferments into 1985. On the livestock side, we expect a $77.5 million increase in receipts primarily due to increased hog receipts. Hog receipts account for one half of the increase in livestock revenues while dairy, poultry and eggs make up the rest, little change is expected for cattle. On the expenditure side, increased feed, seed and cash wage costs could lead to a 5% increase in total expenditures. As the increase in receipts is not as large as the increase in expenditures, realized net income is projected to decline in 1984.

For 1985, wheat, barley and rye marketings are projected to decline while no change in year over year prices is assumed. Normal production levels in 1985, together with the increase in net deferments should help crop receipts remain at 1984 levels. Hog receipts are also expected to continue upward but again, not at the same rate as in 1984. Changes in expense items should be consistent with those seen in other provinces, including declines in interest and feed costs. Offsetting these decreases are other expenditures most of which are projected to increase in line with the general rate of inflation. In total, expenditures are expected to increase by only 1% and a decrease in realized net income of $58 million on 12% for 1985 is foreseen.

BRITISH COLUMBIA

Receipts in British Columbia are projected to increase by $58 million while expenditures could rise by $37 million leaving realized net income $21 million higher. Of the $58 million increase in receipts, $24 million will come from crops and $34 million from livestock. Fruits, vegetables and floriculture offset declines in wheat and barley receipts. On the livestock side, cattle, dairy and poultry receipts were all somewhat higher. Interest and feed expenditure items were up slightly in 1984. These two items were the major contributors to the 5% increase in total operating expenditures and depreciation charges.

In 1985 farm cash receipts in British Columbia should approach the $1 billion figure as receipts for rapeseed, fruits and vegetables and other horticulture crops are expected to be higher in 1985 compared with 1984. Hog receipts are expected to increase in line with other provinces. Most expense categories should increase due to higher input prices, although interest and feed costs should decline. Overall expenses are expected to be higher by $4 million, virtually unchanged from 1984. Realized net income is therefore projected to be higher by $39 million.

SUMMARY

In summary, we are projecting increased receipts in 1984 and little change in receipts for 1985. The scenario for 1985 can be largely attributed to reduced 1984 production levels in the Western provinces. Livestock receipts are not projected to change much and in particular cattle and calves receipts will be relatively unchanged from 1984 levels. Hog receipts should continue to increase but at a decreasing rate. Expenditures are projected to have risen by 5% in 1984, led by higher feed and interest costs. For 1985, the overall rate of increase in expenditures should slow to 1% as interest rates and feed expenses fall slightly and general farm input prices increase marginally.

FARM NUMBERS AND SIZE ... WHAT'S AHEAD

Wayne D. Jones and Fu-Lai Tung

INTRODUCTION

My presentation this afternoon is intended to revisit the issue of farm industry structure and the process of farm industry structural change. By farm industry structure I refer simply to the number and size of farms in Canadian agriculture. The farm industry structural change process then is the movement into and out of the sector as well as the process of farm size expansion and contraction that occur within the sector. The presentation this afternoon will take the analysis one step further and also examine the changing distribution of total farm sales and total farm assets within the industry.

The objective of the presentation is to examine the historical changes in the structure of the Canadian farm industry, to identify the possible direction and rate of future structural change, and, with whatever time remains, to discuss some of the implications of these prospective changes. For the historical part of the analysis, the most recent 15 year period for which data were available, 1966-81, was examined. Projections of structural change were made to the year 1991.

With this rather ambitious agenda, I would like to disperse with any discussion of methodology. The estimation procedures are complex and too lengthy to describe in this forum although I will be glad to discuss this part of the analysis with individuals at a later date. I would like to note, however, that the study was based on the agriculture census match data developed by Statistics Canada. This is a unique and very powerful data base for farm industry structural change analysis.

One can begin by first asking the question, "What are the influences on farm industry structural change?" The major influences are generally believed to be demographic, technological and economic. The major factor with respect to demographic influence is the age composition of the farm operator population. Concerning the technological influence, one is most interested in capital-using technology and how this translates into capital requirements and farm size. Finally, the economic influence refers to the economic returns to farming, one measure of which is the returns to farm capital or investment. Let's then look at these factors over the 1966-81 period and examine the conceptual influence these factors have on the structural change process in terms of farm industry entrants, exits and changing farm size.

STRUCTURAL CHANGE 1966-81

Chart 1 shows the distribution of farm operators classified by age group for the census years 1966 to 1981. During the period there has been a marked reduction in the proportion of farm operators in the higher age groups with a corresponding increase in the proportion of operators under 35 years of age. This trend toward a younger farm operator population is primarily the result of older, retiring farmers transfering their operations to younger farmers. The conceptual influence of a younger farm operator population is a negative impact (reduction) on the rates of turnover (industry entrants and exits) with a positive impact (increase) on the rates of farm size growth due to a higher proportion of farms in the beginning or expansionary phase of the business life cycle.

Chart 2 reflects the technological influence on strutural change through the 1966-81 period. Over this period, the industry witnessed a gradual increase in total productivity. These gains in productivity were in part due to rapid capital embodied technological change, a proxy for which is the capital/labor ratio. One can see from the Chart that this proxy for capital-using technology is highly correlated with capital requirements as measured by the constant dollar value of capital per farm. It is suggested that the conceptual influence on farm structure is that, during periods of rapid capital-using technological change, average capital requirements also increase rapidly acting as a barrier to entry into the industry while accelerating the movement out of the industry of those unwilling or unable to "keep up" with the technological change. Rapid capital-using technological change should also have a positive influence on farm growth (in terms of physical output) since such change increases productivity and because economies of size are generally associated with capital-using technology and operators tend to increase their farm size in order to capture these economies.

Chart 3 examines the economic influence on structural change for the 1966-81 period by depicting returns to capital (assets) and the real cost of borrowed capital or real interest rates. Total returns, which include unrealized capital gains, were less than real interest rates through the latter part of the 1966-71 period, much higher than real interest rates during the 1971-76 period and still positive, but declining, through the 1976-81 period. The conceptual influence of the rates of return to farm capital relative to real interest rates is quite straight forward. Periods of high returns would be expected to have a positive influence on the rate of farm entrants and a negative influence on the rate of farm exits. High returns relative to real interest rates would also be hypothesized to have a positive influence on farm growth in that high returns provide both the incentive and the funds necessary to generate output-increasing farm investment.

In addition to the major demographic, technological and economic influences, there are of course other factors that influence farm industry structural change. Rates of entry, exit and farm expansion, for example, are affected by the phenomenon of lagged response. That is, there is generally a time delay between the change in a given influence and an individual's response to that influence. Similarly, an individual's response may not be immediately realized because of resource base constraints. A decision to acquire more land, for example, may not be possible due to a lack of suitable land for sale or insufficient financing.

Other factors influencing the rates of farm industry structural change include the existence of a large number of non-commercial farms in the industry, which may not be strictly tied to the profit motive and thus react differently than commercial farms to economic or technological change; and the changing farm enterprise mix, since different farm types respond to different structural change influences. Also, changing government programs and policies can have a marked influence on farm industry structural change.

All of the factors discussed above combined to generate the observed rates of farm industry structural change shown in Chart 4. The Chart shows the relatively small net changes in farm numbers (-5.9% for the 1976-81 period) are the result of large flows of farm operators into and out of the industry. An estimated 29.7% of the farm operators in 1976 had left the industry by 1981 while 25.3% of the farm operators in 1981 had entered the industry since 1976. Of the continuing farms (farms in existence at the beginning and the end of the period), 49 to 56% maintained a constant size, in terms of physical output, throughout the period while the proportion that increased or decreased ranged from 17 to 36%. These large variations in the rates of structural change suggest substantial differences in the influences on structural change among the three census periods 1966-71, 1971-76 and 1976-81.

The effects on farm numbers and size as well as the distribution of total farm sales and of total farm capital are described in Charts 5 to 7. I will not dwell on these trends since this is old news to most of us, however, it does set the stage for the outlook part of this presentation. it is important to note that the Charts show the distributions by constant dollar economic size (gross sales) class which is quite different from the data in agriculture census publications which use current dollar size classes. In the current study, farms move among size classes only through changes in physical output and not because of inflationary influences on the value of farm sales. Chart 5 indicates the well known trend to larger size farms. The largest size class ($100 000 sales and over in 1975 dollars) accounted for 1% of farms in 1966; increasing to 11% by 1981. This trend is quite evident even after the distortionary effects of inflation have been removed. An important fact not shown in Chart 5 is that, over the 1966-81 period, there was a net decrease of almost 112 000 farms. Chart 6 indicates a change in the distribution of total farm sales consistent with the movement toward larger farms. The largest size class increased its proportion of total sales from 17% to 54% in just 15 years. Over this period total sales, in constant 1975 dollars, increased 64%. The change in distribution of total farm capital was less pronounced as shown in Chart 7. The largest size class, which controlled 6% of total capital in 1966, controlled 33% of total capital by 1981. Total capital value in constant 1975 dollars increased by 60% during the 1966-81 period. By 1981 then, the 11% of farms in the largest size class accounted for 54% of total farm sales and controlled 33% of total farm capital. It should be noted, however, that the distribution of total farm capital refers to control or utilization of capital regardless of ownership. The 11% of farms in the largest size class, therefore, would likely own less than the 33% of capital they control due to the high incidence of renting and leasing among large farms, particularly with respect to farmland.

STRUCTURAL CHANGE TO 1991

With this brief look at 15 years of structural change in the Canadian farm industry, let us now direct our attention to the future. The first step would be to examine how the major influences - demographic, technological, economic will affect the rates of structural change in terms of industry entrants and exits and the farm expansion/contraction process. On the demographic side, the declining average age of farm operators is expected to continue through 1991 as retiring farmers are replaced by younger entrants. As described earlier, one would expect this trend to have a dampening affect on rates of entry and exits with a positive impact on rates of farm growth. With respect to the technological influence, a slower pace of capital-using technological adoption is anticipated relative to the 1966-81 period since it is expected that low economic returns will limit funds available for investment in new capital. Also, new technologies on the horizon for agriculture suggest medium-term technological change is more likely to be in the bio-technology and micro chip areas which are less capital intensive. Thus, with slower rates of capital-using technological change, capital requirements per farm should rise at slower rates. This should have a positive influence on movement into the industry while having the opposite affect on exits from the farm industry. A slower rate of capital-using technological change should also reduce the incentive to increase farm size.

Turning lastly to the economic influences to 1991, this is the area of most volatility. Weather, world markets, inflation and exchange rates, for example, can change significantly in a very short period of time. However, the general concensus at the present time for medium-term economic prospects is one of continuing high real interest rates, slow domestic economic growth and limited export market growth potential. Farm cash expenses are seen rising with inflation with a gradual improvement in cash flow. Short-run capital devaluation, prevalent over the last three years in agriculture, is expected to be followed by a period of little or no capital appreciation, as the industry's income expectations have been revised downward in recent years. The result of such a scenario would be continued financial pressure on the industry with limited ability or incentive for farm investment. The influence on structural change would be that of promoting lower rates of entry and higher rates of exits from the industry while having a negative influence on farm expansion.

Chart 8 provides some crude quantitative indicators of the major structural change influences for the projection periods 1981-86 and 1986-91, relative to the three historical census periods. If

one looks at the proportion of operators over 60 years of age as an indicator of the demographic influence, we see little change is anticipated to 1991; with about 18% of farm operators in this group by 1991 compared with about 21% over the 1966-71 period. For the technological influence, we can look at the prospective rate of change in the capital/labor ratio; a proxy for capital-using technology. The rates of change in the capital/labor ratio index projected for the 1981-86 and 1986-91 periods are in the 20 to 25% range (4.5% increase per year); closer to the lower end of the range of rates observed since 1966. The higher range in the later 1986-91 period essentially reflects a period of more favourable economic returns resulting in increased investment. For a measure of prospective economic returns, Chart 8 indicates actual and projected estimates of total returns (current returns plus unrealized capital gain) less real interest rates. This measure was negative on average for the earliest 1966-71 period (-.16%) but was quite high during the 1971-76 period (+6.84%); dropping slightly for the 1976-81 period (+4.38%). For the projection period, returns less real interest will again be negative for the 1981-86 period, given the low current returns, capital devaluation and high real interest rates of the early 1980's; with gradual improvement expected for the 1986-91 period. However, consistently high returns, such as those experienced during the 1971-76 period, are not foreseen over the medium-term.

In order to make projections of farm number and size, along with the associated projections of the changing distributions of farm sales and farm capital, it was necessary to account for the changing, and partially offsetting, influences described above. Too, the estimation procedure (a modified Markov Chain process) attempted to account for the other influences, such as lagged responses and resource base constraints, discussed earlier. The estimation procedure resulted in projections of farm numbers distributed by economic size classes for the years 1986 and 1991. Total farm sales and farm capital, in constant 1975 dollars, were estimated based on medium-term forecasts of growth in physical output and capital acquisition. These aggregate values were distributed within the industry according to projected rates of change in average output and capital per farm by economic size classes.

The results of the farm numbers and size projections, in terms of rates of farm industry structural change, are compared with historical rates in Chart 9. Farm numbers are projected to decrease 4.9% for 1981-86 and 1.4% for 1986-91; rates of decline slower than those experienced over the past 15 years. In general, farm entry rates to 1991 are projected about equal to the 15 year historical average while farm exit rates were projected to be slightly lower than historical rates. Chart 9 also indicates a continuing high rate of farm expansion with roughly one-third of all continuing farms, in both the 1981-86 and 1986-91 periods, expected to increase their physical output.

The effect of these rates of structural change are reflected in the distribution of farms by constant 1975 dollar economic size classes, as shown in Chart 10. One can readily see the trend to larger farms is expected to continue through 1991 with the largest size class ($100 000 sales and over) increasing from 11% of farms in 1981 to 17% in 1991. Over the 10 year period 1981-91, the total number of farms was projected to decrease by almost 20 000 to 298 104 farms. While the decrease in the number of farms in the smallest size class (less than $5000 sales) between 1981 and 1991 is small in percentage terms (less than 1%); this represents a decrease of about 6000 farms. Detailed tabulation from the study indicate about a 50% probability that farm operators in the smallest size class will leave the industry within five years compared with about a 15% probability of moving to a larger economic size class.

Chart 11 indicates the implications of changes in farm numbers and size on the distribution of total farm sales by constant 1975 dollar economic size class. Again, the increasing importance of the larger farms is clear. While total physical output (sales in constant 1975 dollars) is expected to rise 14% from 1981 to 1991; farms in the largest size class are expected to account for 68% of this total, up from 54% in 1981. Only the $100 000 sales and over size class is projected to account for an increasing proportion of sales; with sales in the smaller size classes declining in both relative and absolute terms.

Chart 12 indicates the projected distribution of total farm capital, measured in constant 1975 dollars, by constant 1975 dollar economic size class. Not surprisingly, the value of farm capital, both in absolute terms and as a proportion of the total, is projected to decline in all but the largest size class; reflecting the changing distribution of farm numbers. Total capital accumulation over the 1981-91 period was projected to increase by 11% or about 1% per year, on average, compared with a more rapid rate of acquisition of about 4% per year over the 1966-81 period. The largest size class, which controlled 33% of farm capital in 1981, is projected to control 49%, or almost half, of all farm capital by 1991. Thus, by 1991, large farms, representing 17% of the total census farm population, are projected to account for 68% of total farm sales while controlling 49% of total farm capital.

My final chart for this presentation, Chart 13, combines the sales or ouput projections and the capital value projections to present output-capital ratios. An output-capital ratio, commonly referred to as a capital turnover ratio, indicates the value of sales generated from one dollar of capital. These constant 1975 dollar ratios are not comparable among economic size classes because of the widely different levels of inputs and management. However, comparisons overtime within a given size class do provide some measure of the change in capital turnover ratios associated with farm industry structural change. Chart 13 indicates that these ratios are projected to decline in all

size classes from 1971 through 1991. For example, in the largest size class, one dollar of capital generated 50 cents in sales in 1971, 31 cents in 1981 and a projected 28 cents in 1991. This declining trend for the 1971-81 period is not surprising given the rapid rate of capital formation in the industry through the 1970's. A slower rate of change is projected for the 1981-91 period. In fact, the ratio by itself means relatively little in terms of industry efficiency or profitability. However, capital turnover ratios become significant when combined with profitability ratios; the product of which is current returns to capital (assets). Current returns are a direct measure of the financial health of the industry.

CONCLUSIONS AND IMPLICATIONS

Briefly, the conclusions of this study are that historical trends in farm industry structural change are expected to continue with similar rates of farm entry, exit and farm size growth. Projections to 1991 indicate almost 20 000 fewer farms than existed in 1981 with further increases in average farm size, as measured by constant dollar sales. Over the same period, output-capital or capital turnover ratios will continue to decline. Finally, of the major influences affecting farm industry structure to 1991 demographic, technological and economic -- it is the economic influence that will be most different relative to the 1966-81 period.

One implication of the projections is that farm capital will be controlled by fewer farm operators. This implies increases in financing requirements for intergenerational farm transfers and changes in farm organizational structure to accommodate larger operations both in terms of physical and economic size. Fewer farms of larger average size suggests implications with respect to declining farm population and industry buying patterns (purchased inputs and capital items). Consequently, projected structural changes will have an impact on farm input industries and rural communities in general.

Declining output-capital ratios imply less income per dollar invested in farm capital. Recalling that current returns to capital is the product of the capital turnover ratio and the profitability ratio; there is an implication that, in order to maintain adequate current returns in the face of declining output-capital ratios, there will be additional pressure on the industry to increase profitability. Related to this concern, is the prospect that economic influences will be markedly different from recent historical experience in that economic returns will be lower and real interest rates will be higher. This suggests that economic influences, and therefore economic policy, will play a key role in farm industry structural change over the medium-term.

CHART 1. FARM OPERATORS BY AGE GROUP, CANADA, 1966-81

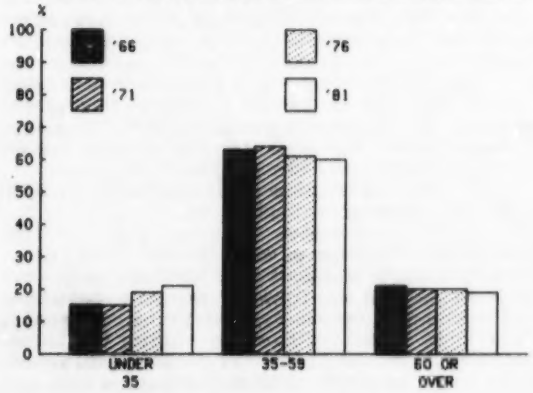


CHART 2. TECHNOLOGICAL CHANGE INDICATORS (1971 = 100)

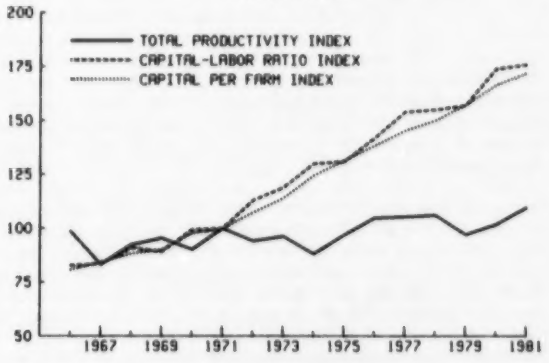
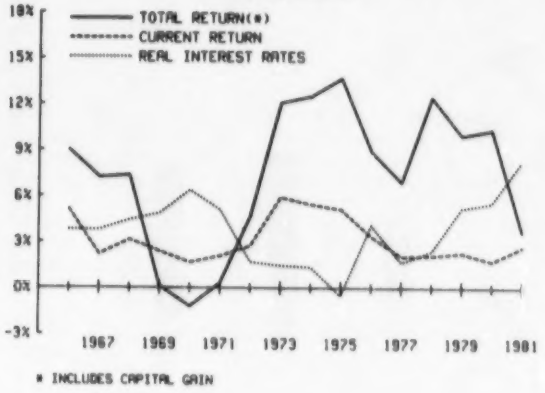


CHART 3. RATES OF RETURN TO CAPITAL AND REAL INTEREST RATES, CANADA, 1966-81



* INCLUDES CAPITAL GAIN

CHART 6. DISTRIBUTION OF FARM SALES IN CONSTANT (1975) DOLLARS BY ECONOMIC CLASS, CANADA, 1966-81

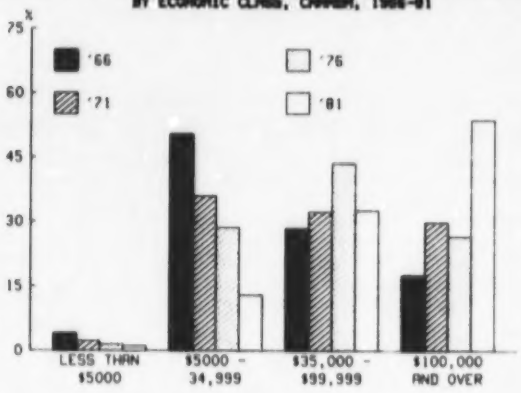


CHART 4. RATES OF FARM INDUSTRY STRUCTURAL CHANGE, CANADA, 1966-1991

CENSUS PERIOD	FARM EXITS	FARM ENTRANTS	NET CHANGE	CONTINUING FARMS DECREASING	CONTINUING FARMS INCREASING	CONTINUING FARMS CONSTANT
	(PERCENT)					
1966-71	35.5	24.1	-15.0	16.9	27.5	55.6
1971-76	35.6	30.3	-7.5	23.8	23.9	52.3
1976-81	29.7	25.3	-5.9	17.7	35.6	46.7

CHART 7. DISTRIBUTION OF FARM CAPITAL IN CONSTANT (1975) DOLLARS BY ECONOMIC CLASS, CANADA, 1966-81

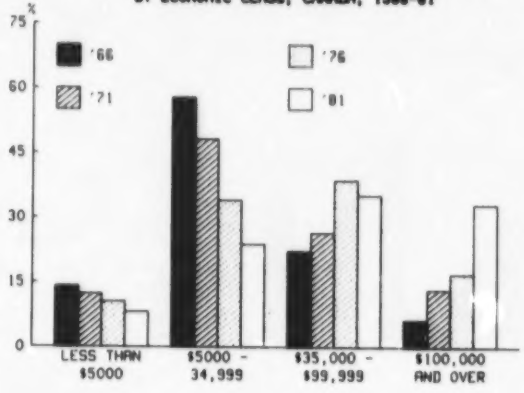


CHART 5. DISTRIBUTION OF FARM NUMBERS BY ECONOMIC CLASS, CANADA, 1966-81

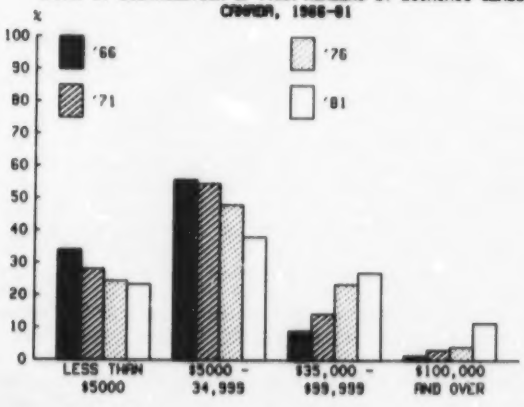


CHART 8. CHANGES IN MAJOR INFLUENCES ON STRUCTURAL CHANGES, CANADA, 1966-1991

	DEMOGRAPHIC: OPERATORS OVER 60 YRS OF AGE	TECHNOLOGICAL: CAPITAL/LABOR RATIO	ECONOMIC: TOTAL RETURNS TO CAPITAL LESS REAL INTEREST
	%	% Δ	%
1966-71	21.00	+20.00	-0.16
1971-76	20.00	+31.00	+6.84
1976-81	20.00	+23.90	+4.38
1981-86	19.00~20.00	+17.00~+23.00	-5.00~-2.00
1986-91	18.00~19.00	+20.00~+28.00	+1.00~+3.00

CHART 9. RATES OF FARM INDUSTRY STRUCTURAL CHANGE, CANADA, 1966-1991

CENSUS PERIOD	FARM EXITS	FARM ENTRANTS	NET CHANGE	CONTINUING FARMS DECREASING	CONTINUING FARMS INCREASING	CONTINUING FARMS CONSTANT
	(PERCENT)					
1966-71	35.5	24.1	-15.0	16.9	27.5	55.6
1971-76	35.6	30.3	-7.5	23.8	23.9	52.3
1976-81	29.7	25.3	-5.9	17.7	35.6	46.7
1981-86	30.1	26.4	-4.9	20.4	27.8	51.8
1986-91	28.7	27.7	-1.4	18.4	33.1	48.5

CHART 10. DISTRIBUTION OF FARM NUMBERS BY ECONOMIC CLASS CANADA, 1981 - 1991

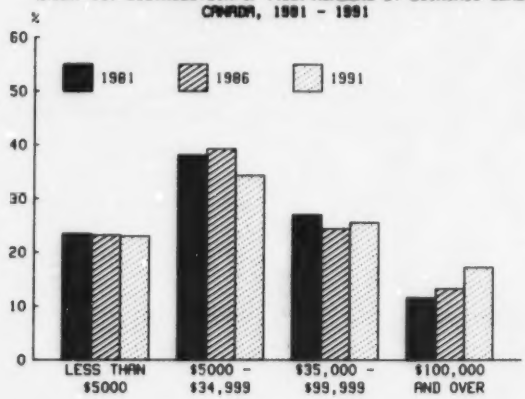


CHART 11. DISTRIBUTION OF FARM SALES IN CONSTANT (1975) DOLLARS BY ECONOMIC CLASS, CANADA, 1981 - 1991

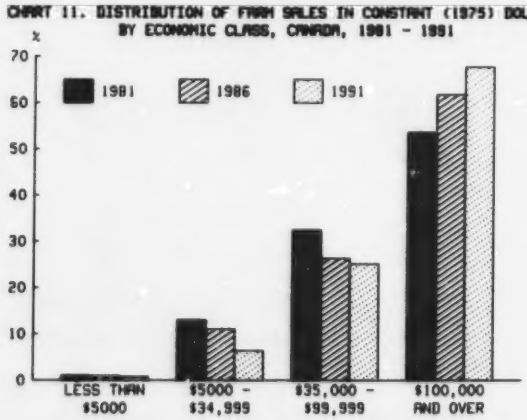


CHART 12. DISTRIBUTION OF FARM CAPITAL IN CONSTANT (1975) DOLLARS BY ECONOMIC CLASS, CANADA, 1981 - 1991

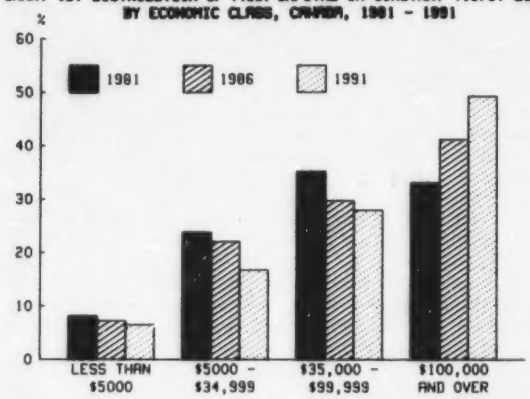
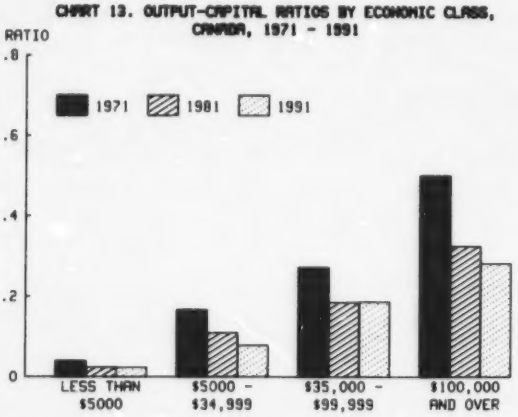


CHART 13. OUTPUT-CAPITAL RATIOS BY ECONOMIC CLASS, CANADA, 1971 - 1991



IMPLICATIONS OF CHANGING ENERGY PRICES FOR CANADIAN AGRICULTURAL PRODUCERS

J.A. MacMillan

INTRODUCTION

The theme of this conference, "Developing our Resources in a Global Perspective" is particularly relevant to the topic "Implications of Changing Energy Prices for Canadian Agricultural Producers." Canada is extremely fortunate to have surplus oil, natural gas and electrical energy resources. Canadian agricultural producers have an opportunity to increase net income substantially by more efficient use of energy inputs.

Canadian energy management issues are discussed below with respect to:

- the relative importance of energy as a component of farm operating expenses;
- factors affecting energy prices in the 1990s; and
- potential for increasing Canadian farm income by efficient use of energy inputs.

RELATIVE IMPORTANCE OF ENERGY AS A COMPONENT OF FARM OPERATING EXPENSES

Energy is a major component of farm operating expenditures. The significance varies by region in Canada. Farm fuels, fertilizer, heating fuel and provincial variations in energy prices are discussed below.

Energy Compared to Other Costs

According to the Farm Energy Survey, 1981 (1, p. 12), farms with more than $5,000 agricultural receipts spent 37% of their energy bill on gasoline and 38% on diesel fuel, 15% on electricity and 11% on other fuels. In addition, there is a substantial energy cost component associated with fertilizers and chemicals. It is likely that the total 1983 energy cost component (see Table 1) associated with machinery fuel, fertilizer, pesticides, and heating fuel (in total 24% of total operating expenses) is higher than either the wages component (10%) or interest (15%). The energy cost component of the farm level delivered cost of fertilizers and chemicals is not available.

Fuel Bill

Between 1971 and 1983 machinery fuel as a percent of total expenditures increased from 9% to 10%. Manitoba, Saskatchewan, and Alberta use more than the national average. Unit fuel costs on a crop basis vary widely. For a typical wheat farm in the prairie Black Soil Zone region fuel and oil expenses were 12% of 1982 total operating expenses (gasoline price at $.339 per litre and diesel fuel at $.319 per litre) (3, p. 64). Fuel expenditures as a percent of total operating expenses in Ontario per hectare by crop are: 6% (barley and oats), 13% (grain corn), 8% (winter wheat), 9.5% (soybeans), and 15.0% for white beans (4, p. 26). In dollar terms Ontario fuel expenses range from $11.62 per hectare for oats to $54.94 per hectare for grain corn.

Energy Cost Component in Fertilizer

Natural gas accounts for about 70% of the cash operating cost of producing a tonne of ammonia (5, p. 7). For urea it is typically 50% of cash costs per tonne. Canadian sulphur production is a by-product of natural gas production. At current prices (6) the sulphur component of phosphate fertilizer is about 3 times the cost of phosphate rock. The production of phosphate fertilizer requires sulphur and phosphate rock in about equal proportions.

Fertilizer expenditures as a component of total Canadian operating expenses (1971-1983) have increased from 6 to 8% (see Table 1). Fertilizer expenses are greater than the national average percent of operating costs for Alberta (10.8%), and Manitoba (11.1). Shipments to domestic and export markets by type of fertilizer material indicate the provincial distribution of N, P, and K (see Table 2). World and Canadian consumption of fertilizer increased dramatically in 1983-84. The export market value for Canadian produced anhydrous ammonia increased by 43% and exports of muriate of potash increased 36% in 1983-84 over 1982-83 (Table 3).

Heating Fuel

Between 1971 and 1983 heating fuel as a percent of total operating expenditures has declined slightly from 2% to 1.5% (Table 1). Ontario is the only province with heating fuel expenses as a proportion of total operating costs substantially above the national proportion (2.4%). The component fuel expenditures (natural gas, electricity, diesel fuel and propane) are not publicly available.

Energy Prices

The variation in energy as a proportion of total farm expenses covers up the significant effect of low energy prices in Alberta and Saskatchewan for motor fuel and natural gas (see Table 4), as well as very low electricity rates in Manitoba. Alberta, Manitoba, and Saskatchewan use more than the national average motor fuel based on fuel as a percent of total expenses. Low motor fuel prices in Alberta, Manitoba and Saskatchewan mean that on a unit volume basis instead of an expenditure basis fuel use in the Prairie Region is of even greater significance. Similarly, fertilizer use on a volume basis in the Prairie Region is greater than that indicated on a dollar value basis because fertilizer is cheaper in Western Canada.

FACTORS AFFECTING ENERGY PRICES IN THE 1990s

The move in Canadian and U.S. energy policy to market oriented pricing has important implications for agricultural producers. Oil and gas prices are now going to be affected by international energy supply and demand factors rather than regulations. Changing world oil price levels will be the critical determinant of gasoline and diesel

fuel prices. Natural gas priced on a market basis implies a key role for the U.S. demand for Canadian exports. Exports of Canadian electricity could also benefit Canadian agriculture through lower electricity rates.

Gasoline and Diesel Fuel

Gasoline and diesel fuel prices have been largely determined by federal oil price regulations which taxed production and subsidized consumption. Subsidies to consumers brought gasoline costs below a price consistent with world oil prices. The new federal government has indicated that Canadian oil prices should move to world levels. The impact would be to raise prices to refineries and create a 2-3¢ per litre increase in gasoline and diesel fuel prices in 1985 or about a 6% increase over 1984 prices. Farmers will be compensated by the federal sales tax rebate and PCC rebate of 4.8¢ per litre which applies only to off-highway use.

With considerable excess oil production capacity OPEC will require strong actions to maintain the current benchmark price level of world oil at $29.00 per barrel ($U.S.). OPEC policy is to reduce or increase oil output to maintain stable world oil prices. Non-OPEC supply is not expected to change dramatically through the 1990s. With continuing increases in world economic growth and oil demand, OPEC is expected to be able to increase production substantially in the 1990s (8).

From a Canadian perspective stable or declining world oil prices in nominal dollars and market pricing on a regional basis in Canada will likely result in gasoline and diesel fuel prices determined by refinery economics and distance from oil supply sources (10, 11). Refineries are reducing the excess capacity for gasoline production and the even greater excess capacity production of heavy fuel oil. With a better balance between supply and demand, price increases in gasoline and diesel fuel can be expected to track general price levels. Current forecasts are for 5-7% inflation into the 1990s measured by the consumer price index.

Natural Gas

Canadian domestic and U.S. export natural gas market pricing regulations have created seriously distorted energy price signals to Canadian agricultural producers.

Domestic natural gas prices are currently regulated (12) on the basis of an Alberta-Canada agreement to February 1, 1985 containing scheduled increases in the Alberta border price and a Toronto wholesale price. There are three key elements in determining market oriented prices for natural gas exports. First, the uniform border pricing concept using the Toronto wholesale price as a base (Niagara Falls to Huntington, B.C.) needs to be removed. Second, future market prices in major U.S. regional markets are required as base points. Third, the transportation costs from alternative supply sources to these markets are required. Supply prices could then be related to finding costs. Incremental finding costs for Alberta natural gas are about $1.50 (U.S.) per Mcf compared with about $2.50 (U.S.) for the U.S. Gulf Coast.

A surplus of more than 30 times 1982 Canadian consumption of natural gas supply exists in Canada, primarily in Alberta. New possible sources include Sable Island in Nova Scotia, and the Arctic Beaufort Sea. There exists a substantial potential for exports of Canadian natural gas to the U.S. in the 1990s.

The key to market oriented export Canadian natural gas pricing is the length of time required for the U.S. to return to a domestic supply shortage in natural gas. The surplus resulted from regulation of U.S. gas prices which caused high gas prices and stimulated substantial drilling and discoveries. Current estimates are for the surplus to disappear in the late 1980s. The prospects are for stable Canadian domestic and export natural gas prices until the early 1990s based on U.S. market projections. A critical assumption is that there will be relatively "free trade" in Canadian domestic gas markets and between Canada and the U.S.

Electricity Prices

Current and anticipated requests from utilities for rate increases will increase Canadian electricity prices through the 1990s in the 6-9% nominal range. Manitoba, Quebec, B.C. and Alberta are considering electricity exports in varying volumes. If the market for exports grows as expected, export revenues could be passed on to utility customers in the form of reduced rates.

Price Outlook Summary

It is clearly in the best interests of OPEC and non-OPEC oil suppliers to maintain current price levels through supply control. Saudi Arabia appears to have the ability to act as the swing producer to effectively control the supply. However, current difficulties indicate a downward price adjustment may occur. In a long-term context market pricing of oil in Canada consistent with world prices will likely lead to oil prices in the 1990s increasing at the general inflation level.

Market pricing linked to U.S. markets will mean increasing natural gas prices in the mid-1990s but Western Canadian gas and fertilizer prices could be below those paid by Eastern Canadian and U.S. agricultural producers. Fertilizer prices will be affected by production technology and distance to agricultural producers.

Canadian electricity prices will continue to be regulated and rate increases in the 6-9% nominal range will continue into the 1990s. A substantial potential exists for aggressive marketing of electricity exports to the U.S. in the 1990s from Ontario, Quebec, Manitoba, Alberta and B.C. (13). Reduced rates to utility customers including agricultural producers could result from active pursuit of these markets.

If OPEC cannot maintain the benchmark $29 barrel ($U.S.) because of world oil demand and supply factors, and Canada has market oriented prices, then Western Canadian agricultural producers will still benefit from having low motor fuel and natural gas costs relative to Eastern Canada, U.S. and other world agricultural producers. If oil prices rise faster than now expected with market oriented prices, Western Canadian agricultural producers could still have a comparative advantage associated with low Canadian oil and gas energy supply costs.

POTENTIAL FOR INCREASING CANADIAN NET FARM INCOME BY EFFICIENT USE OF ENERGY INPUTS

Abundant Canadian natural gas, oil and electricity resources have created low energy prices for Canadian agricultural producers relative to other countries. Pricing of energy on a market basis means producers in Western Canada would have a cost advantage with respect to gasoline and natural gas energy sources. Eastern Canadian producers may be able to benefit from future Newfoundland and Nova Scotia oil and gas production. Motor fuel conversion economics, fuel tax subsidies, efficient fertilizer application rates, farm tillage practices, and crop substitution are important factors for Canadian producers to consider in optimizing energy input use.

Farm Equipment Conversions to Natural Gas Vehicle Fuel (NGV)

Significant potential savings exist for conversions of farm cars, trucks, tractors and other equipment to natural gas vehicle fuel (NGV). The limiting factor to date has been the availability of NGV at gasoline distribution centers. Experimental work by Saskatchewan Power is examining the savings resulting from compressing natural gas now delivered to farms for heating. The major cost is a $12,000 compressor.

Large savings would result if farmers converted all their gasoline and diesel cars, trucks, tractors, etc. to NGV. Natural gas at the residential rate for Alberta farmers translates into 8¢ per litre on a gasoline fuel equivalent basis.

Alberta farmers are eligible for fuel rebates of 13.3¢ per litre (1.5¢ federal excise tax, 1.8¢ petroleum compensation charge, 3¢ federal sales tax and 7¢ per litre Alberta Government farm fuel rebate). Deducting the fuel rebates from an average price of 41.5¢ per litre retail price of gasoline results in a farm gasoline price of 28.2¢ per litre. Thus NGV has a price advantage of 20.2¢ per litre, excluding compression costs.

Conversion of a gasoline car or truck costs about $2,500. A federal grant of $500 is available as well as other grants depending on the province. Similar savings exist for NGV conversion of farm diesel equipment, but conversion costs are high. If farm machinery manufacturers produce NGV tractors, etc. the cost of conversion to farmers would be reduced substantially. Large gains would then be possible from converting all farm equipment to NGV.

A similar potential for savings exists for other provinces. Assuming Quebec farmer's natural gas price is twice the cost in Alberta, a gasoline equivalent price of 16¢ per litre exists. If a Quebec farmer pays 37.6¢ per litre (55.8¢ per litre less 18.2¢ per litre of federal and provincial rebates) a savings of 21.6¢ per litre results, excluding compression costs.

Farm Use of Fertilizer at Recommended Levels

The availability of low cost Canadian natural gas can be exploited by increasing rates of fertilizer application. Analysis by Kraft and Field (16) indicates rates in the Prairie Provinces for 1981 are well below recommended rates (Table 5). It is likely that increasing fertilizer application rates will improve net farm income on most Canadian farms. Market and yield risks are limiting factors, as well as cash flow constraints.

Changing provincial crop patterns indicate a greater requirement for increasing fertilizer applications. In the Prairie Region additional winter wheat to avoid drought problems, as well as an increased corn acreage, is expected. For both crops recommended fertilizer application rates are high relative to other crops. In Quebec corn acreages have increased dramatically and are expected to continue to increase indicating a substantial potential for increasing net farm income with additional fertilizer use in Quebec.

High yielding new semi-dwarf wheat varieties such as HY320 require high fertilizer application rates (15). Applications of 150 pounds of actual nitrogen and 40 pounds of phosphate per acre are reported for Manitoba. Crop substitution of this type provides an opportunity to further increase the exploitation of the energy cost advantage associated with increasing fertilizer application rates in Canadian agriculture.

Farm Tillage and Cropping Practices

Studies of farm tillage and cropping practices indicate a potential for conserving motor fuel:

- Ridge tillage is estimated to increase net farm income by 42% according to analysis using the Ontario Grain Farm Simulation Model (4, p. 42);
- Relay Tillage - involving seeding of soybean into standing wheat increased net farm income by 13.2% (4, p. 45);
- Zero Tillage - cost savings estimated using 1983 costs from removing plowing and two seedbed preparations are estimated at $65 per hectare (4, p. 73);
- Reduce Prairie Region Summerfallow - intensive wheat cropping in Black Soil Zone in Saskatchewan increased 1982 net returns by 8.6% (3, p. 61);
- Incorporation of legumes into crop rotations can eliminate the need for nitrogen fertilizer (3, p. 40). Increased net returns of $10.33 per hectare were achieved based on 1982 costs.

Additional comparative economic analysis of such tillage practices is required to determine whether a potential exists for widespread savings from practices such as zero tillage.

CONCLUSIONS

Canadian energy prices in the 1990s will continue to rise in nominal terms but at a much slower pace than in the 1970s and 1980s. Canadian energy prices, if market oriented, will result in energy prices to Canadian farmers among the lowest in the world. An opportunity exists to use Canada's energy resources, particularly natural gas, in agricultural production to achieve considerable advantage in international trade, as well as low cost food for Canadian consumers. Canadian

agricultural producers can move towards improving energy use and achieving a comparative advantage in production by:

- increasing fertilizer application rates to economic levels and using energy efficient tillage practices;
- monitoring Canadian and U.S. natural gas and fertilizer prices to ensure that Canadian producers benefit from surplus Canadian natural gas and sulphur (with market oriented prices, Western Canadian natural gas prices should be below U.S. levels);
- increasing soil testing research and extension programming to clearly identify to producers the net returns to increasing fertilizer inputs;
- analyzing the economic potential for substituting high fertilizer responsive varieties such as HY320 wheat;
- analyzing of alternative means of reducing yield and market risks, as well as cash flow constraints associated with efficient fertilizer applications, such as crop insurance and working capital guarantees; and
- considering converting farm automobiles, trucks, tractors, and other farm machinery to NGV.

Changing energy prices, particularly stable natural gas prices, will create strong economic incentives to convert farm cars, trucks, tractors and other machinery to NGV. These trends will result in a lower proportion of farm expenditures on motor fuels in the 1990s. Increasing recognition of the potential for efficient-energy use and economic returns with higher fertilizer application rates combined with mechanisms for reducing yield and market risk will result in a continuing increase in the fertilizer component of farm operating expenses, in the 1990s.

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TABLE 1. ENERGY RELATED FARM EXPENDITURES, CANADA, 1971-1983

	1971		1983	
	($000)	(%)	($000)	(%)
Machinery fuel	264,708	9.0	1,271,422	10.0
Fertilizer	160,016	6.0	997,811	8.0
Pesticides	44,239	2.0	543,637	4.0
Heating fuel	56,236	2.0	195,153	1.5
Total	525,199	19.0	2,998,023	24.0
Wages	309,006	10.0	1,226,716	10.0
Interest	266,663	9.0	1,874,509	15.0
Total operating expenses	2,860,996	100.0	12,697,324	100.0

Source: Derived from Statistics Canada Farm Expenditures, Annual Data

TABLE 2. CANADIAN FERTILIZER INFORMATION SYSTEM -- FERTILIZER MATERIALS SHIPPED TO DOMESTIC AND EXPORT MARKETS -- SHIPMENT REPORT, JULY 1983 TO JUNE 1984

	Atlantic	Quebec	Ontario	Eastern Canada	Manitoba	Saskatchewan	Alberta
				(metric tonnes)			
Urea	744	9,722	31,337	61,803	129,932	241,708	297,228
Ammonium sulphate	0	0	0	0	9,641	23,616	28,096
Ammonium nitrate	29,347	49,393	96,380	174,320	67,116	47,785	73,800
Anhydrous ammonia	0	3,491	42,298	45,789	99,371	111,443	196,483
Nitrogen solutions	1,041	20,122	100,470	121,633	23,444	21,166	26,467
Ammonium nitrate phosphate	0	0	70	70	7,490	13,729	18,361
Monoammonium phosphate	0	3,800	65,993	69,793	153,175	334,316	282,236
Diammonium phosphate	52,571	67,434	64,086	184,091	0	225	199
Urea phosphate	0	0	38	38	10,473	39,063	24,677
Other ammonium phosphate	0	0	79	79	20,267	38,245	20,077
Normal superphosphate	75	9,496	15,780	25,351	145	0	0
Triple superphosphate	1,669	6,557	29,670	37,896	0	75	0
Muriate of potash	35,614	152,037	319,648	507,299	28,856	15,132	44,602
Other fertilizers	0	0	715	715	2,586	7,095	13,000
Total	121,061	321,052	786,764	1,228,877	552,496	893,598	935,226

(continued)

TABLE 2. (Continued)

	British Columbia	Western Canada	Total Canada	Export U.S.	Export Offshore	Total Shipment	Invoice
				(metric tonnes)			
Urea	19,301	598,189	659,972	287,388	51,934	299,294	152,212
Ammonium sulphate	3,286	64,639	64,639	184,921	51,764	301,324	15,623
Ammonium nitrate	13,511	202,212	376,532	151,451	0	527,983	41,036
Anhydrous ammonia	2,941	410,238	456,027	367,639	0	623,466	109,327
Nitrogen solutions	0	71,077	192,710	88,588	0	281,294	3,494
Ammonium nitrate phosphate	1,003	40,583	40,675	107	0	40,760	1
Monoammonium phosphate	15,518	785,245	855,038	74,074	0	929,112	103,264
Diammonium phosphate	950	1,374	165,465	34,272	10,112	229,849	33,313
Urea phosphate	1,126	75,339	75,377	0	0	75,377	243
Other ammonium phosphate	7,887	86,476	86,555	64,358	0	150,913	21,707
Normal superphosphate	0	145	25,496	6,900	0	32,396	0
Triple superphosphate	0	75	37,971	1,648	0	39,619	0
Muriate of potash	9,799	98,389	605,688	6,678,981	3,969,398	11,234,097	2,715,545
Other fertilizers	4,775	27,456	28,171	9,568	0	37,739	472
Total	80,097	2,461,417	3,690,294	7,949,895	4,083,208	15,723,397	3,196,237

Source: Canadian Fertilizer Institute

TABLE 3. CANADIAN TRADE IN FERTILIZER MATERIALS, FERTILIZER YEARS 1981-82 AND 1982-83

	Fertilizer and fertilizer materials	Imports 1982-83	Imports 1983-84	Exports 1982-83	Exports 1983-84
(1)	Urea	147.8	225.9	634.9	686.6
(2)	Ammonium sulphate	13.6	13.8	182.7	155.7
(3)	Ammonium nitrate	-	-	416.1	434.1
(4)	Anhydrous ammonia	30.1	36.8	565.5	805.8
(5)	Nitrogen solutions	2.8	13.0	73.2	92.8
(6)	Nitrogenous fertilizers, NES	20.9	13.0	-	-
(7)	Phosphate rock	2,466.3	3,001.0	-	-
(8)	Nitrogen phosphate fertilizers	-	-	216.6	207.2
(9)	Phosphatic fertilizers	274.3	303.6	-	-
(10)	Triple superphosphate	45.0	52.4	-	-
(11)	Muriate of potash	2.4	2.1	7,503.3	10,176.0
(12)	Sulphate of potash	14.6	11.2	-	-
(13)	Sulphate of potash magnesia	59.4	34.6	-	-
(14)	Prepared mixtures	38.7	27.1	71.3	71.9
(15)	Fertilizer and fertilizer material, NES	31.9	32.6	37.7	37.6
	Total value (Canadian $million)	269.6	319.9	1,160.9	1,456.5

NES = not otherwise specified

Source: Canadian Fertilizer Information System, Canadian Fertilizer Institute, Ottawa, Vol. 5, No. 4.

TABLE 4. CANADIAN REPRESENTATIVE ENERGY PRICES, BY PROVINCE, 1983

Province	Regular Leadeda Gasoline (¢/litre)	Automotivea Diesel (¢/litre)	Heating Oil (¢/litre)	Natural Gas Residential Sales ($/10m3)	Electricity (¢/kW.h)
Nfld.	52.6	53.1	35.1	-	5.56
P.E.I.	52.2	54.6	33.7	-	10.74
N.S.	49.5	48.6	33.5	-	6.44
N.B.	48.2	48.9	33.5	3.06	5.32
Que.	52.7	48.3	33.5	2.44	4.04
Ont.	43.7	45.3	32.8	2.29	4.27
Man.	39.4	38.5	29.5	1.86	3.51
Sask.	37.2	35.3	29.6	1.45	4.46
Alta.	34.3	31.8	-	1.36	4.45
B.C.	42.1	45.5	29.8	1.74	4.76
Canada	42.9	44.1	33.2	1.89	4.42

[a]Canadian farmers are eligible for 4.8¢/litre of Federal fuel rebates for off-highway use. Provincial sales taxes on gasoline and diesel fuel vary by province (8-12¢/litre) but are not usually levied on farm fuels. Alberta introduced in April 1982 a 7¢/litre rebate on farm fuel (diesel, purple gas and propane), British Columbia introduced sales tax on farm fuels of 3.92¢/litre in July 1984.

Source: Energy, Mines and Resources Canada, Energy Statistics Handbook, 1984.

TABLE 5. ACTUAL AND RECOMMENDED FERTILIZER APPLICATION RATES IN THE PRAIRIE PROVINCES

Year	Province / Fertilizer / Seedbed	Manitoba Nitrogen Stubble	Manitoba Nitrogen Fallow	Manitoba Phosphorous (P205) All	Saskatchewan Nitrogen Stubble	Saskatchewan Nitrogen Fallow	Saskatchewan Phosphorous (P205) All	Alberta Nitrogen Stubble	Alberta Nitrogen Fallow	Alberta Phosphorous (P205) All
		(lbs/acre)								
1961		1	1	3	1	0	1	3	2	5
1962		2	1	3	1	0	2	4	3	6
1963		2	2	4	1	1	3	6	3	7
1964		3	2	4	3	1	4	8	4	8
1965		5	3	5	3	1	4	9	4	9
1966		9	4	10	5	2	6	13	5	10
1967		11	5	11	7	2	7	17	6	12
1968		17	6	13	7	2	8	20	7	13
1969		10	4	7	3	1	4	16	5	10
1970		14	4	8	4	1	2	17	6	8
1971		16	6	10	3	1	3	20	7	9
1972		15	5	10	4	1	4	21	7	10
1973		25	7	14	7	2	6	28	10	13
1974		28	10	17	9	3	9	34	12	18
1975		31	9	19	11	3	10	34	13	17
1976		37	10	18	11	3	8	38	11	15
1977		38	9	17	14	3	8	47	12	17
1978		39	11	19	19	5	11	49	14	18
1979		55	19	25	25	6	11	51	16	20
1980		56	17	25	25	7	10	48	17	19
1981		45	14	23	28	8	12	56	20	22
Recommended		62	22	40	49	15	33	52	17	35

Source: D. Kraft and V. Fields, "Fertilizer Demand in the Prairie Provinces," Winnipeg, Department of Agricultural Economics, University of Manitoba, Unpublished, 1981.

A FUTURE PERSPECTIVE ON CROP PROTECTION CHEMICALS

John P. Oliver

Ladies and Gentlemen, it is a real pleasure for me to address the Outlook Conference today. As I look around this room, I can say with some confidence that most of us were alive during the early to mid-70's. At that point in Canada's history, a new concern was thrust to the forefront of our daily priorities--that being the question of energy self sufficiency, or energy security for the future.

I can't recall, in the intervening decade, one of our politicians, or one of our media people asking the same question about food, but if we were in most other countries in the world, food security would be the fundamental objective of our society.

Food is the first among the hierarchal needs of men, and in fact enduring food security has been a long cherished goal of all mankind--a long cherished, but never attained goal.

The two major factors responsible for not achieving food sufficiency and predictable supply have been weather and pest epidemics. There isn't much that we can do even today about such aberations as drought, floods, hail or hurricanes, but we can control most pests.

Some of society's greatest, but little recognized achievements have occurred in the science of pest control, over the past 30 years.

The subject of my talk is "A future outlook on crop protection chemicals". I thought it rather fitting that in Rod Bailey's letter to me on the Outlook Conference, he emphasized the conference would look at "The influence of our changing world on Canadian agriculture".

Probably no other inputs are subject to the influences of the changing world like Crop Protection Chemicals.

Even the use of the words "Crop Protection Chemicals" today, rather than pesticides, bears comment.

The literal translation of pesticides means to kill a pest, but in our society, it has taken on a negative connotation, whereas Crop Protection and Crop Production Chemicals are viewed as positive aids, which improve and safeguard yield and quality of our crops and livestock.

I would like to approach today's talk in three separate segments:

1. A global perspective of the Crop Protection Chemical Industry in the year 2000.

2. The structure, size and focus of the Canadian industry in the year 1984, and finally a few thoughts on this input sector for 1985.

I would like to also make a few predictions about the effects on Canadian agriculture that these future happenings will have.

Let's jump in our time capsule and blast off for the year 2000.

As we left 1984, there were approximately 20 research-based manufacturers in the world; that is, 20 multi-national companies doing basic synthesis and screening of compounds, which could have activity related either to yield enhancement or pest control in crops.

As we brake our time capsule for the year 2000, the 20-odd major research-based manufacturers are now down as low as 8, at the upside 12.

All our major diversified manufacturers operating in the broadest life sciences spheres--that is, they encompass the pharmaceutical industry, the Agricultural Chemical Industry, basic chemical synthesis and plant and animal genetics.

The industry, in 1984, on a worldwide basis, is not quite 14 billion U.S. dollars in sales, or $18 billion, Canadian.

In the year 2000, it is over 23 billion dollars U.S. or $29 billion Canadian at today's exchange rates. Canadian contribution to the total, at the manufacturing level, in 1984, was less than 3% and in the year 2000 it is a question-mark on which I hope we still have time to impact.

Now why did this rationalization of the industry take place? There are four strengths or areas of expertise which a company should possess in order to be successful in the Crop Protection Chemical Industry. They are:

1. Basic research
2. The development or extension of the products from basic research to commercial application, on as broad a base as possible.
3. Production efficiency
4. Marketing clout and after-sales service

At the present time, I cannot think of one company on a worldwide basis, equally strong, on all four major points. Some are strong in research and manufacturing. Some are strong in development and marketing; those are the "pairing of strengths" which have historically taken place in this industry.

By the year 2000, we will have the company that is strong in research and manufacturing linking up with the company that is strong in development and marketing. So that efficiency, and more importantly, effectiveness of the total company unit is enhanced.

By the turn of the century, economic pressure, and the basic instinct for survival will have driven the companies to this point. The economic concerns can be very early outlined.

I've been a part of this exciting and volatile industry since the late '60's. During that period (just 15 or 16 years) the success rate in screening has dropped from one product per 3500 synthesized, to now only one commercial entry out of every 20,000 - 30,000 chemicals screened.

The period of development has shot up from four years to 10-12 years. That means that the chemical showing some activity being discovered at this very moment will not be a marketable entity in the developed world until 1995 at the earliest.

The Crop Protection Industry is a high stakes economic game of scientific Russian Roulette with the costs like this:

Today between $20 and $30 million up front money is required to put a product on the market, and complete all the necessary crop efficacy, human toxicology and environmental safety data to ensure it is safe and effective. By the year 2000 it will cost between $70 and $100 million to put a product on the market.

The second major change, as we stop our time capsule at the year 2000 will be in the type of products sold. They will have some, or all of the following characteristics:

(a) Target Specifics

These are compounds that have extremely wide margins of safety because they will only work on certain types of pests. For example, the insect growth regulators which are targeted to pests that molt. They intersect the molting process so that the cuticle doesn't harden. Since humans and animals don't go through this process, safety margin is almost infinite.

(b) Site Specifics

These will be chemicals which have delivery systems like a rifle bullet, aiming straight for the site of the action, for example, herbicides which stop cell elongation during germination of the weed seed. The net effect of target specific and site specific modes of action will be that there will be greatly reduced amounts of chemicals actually produced and used. The need for the huge quantities of chemicals used in a broadcast manner will be reduced.

If you add to these characteristics advancements in application techniques, such as we are now seeing in the ultra-low volume application sprayers, where only a 1/10 or 1/100 of the amount of pesticide and water is used, then combine the total with more environmentally benign compounds, that is ones that break down faster in the environment, and do not leave the potential for harmful residue, you can see the products marketed in the late 1990's and the year 2000 will be vastly improved over many of the current generation.

The third area of significance is the role of biotechnology, or genetic engineering in the Crop Protection Chemical Industry of the future.

In this area there will be two major advances which have the potential to revolutionize the Crop Protection Industry.

The first will be potentiated viruses or bacteria produced through classic genetic engineering techniques that target to certain insect pests and possibly plant diseases.

Secondly, herbicide resistance will be implanted in normally susceptible crops. With Triazine-Tolerant Canola, Canada is in the forefront in breeding tolerance to a pesticide into a commercial crop.

Let me quickly state my concern on this whole area of biotechnology in agriculture.

As I said at the outset, Canada is less than 3% of the total world Crop Protection Chemical sales in the year 1984.

In other words, we're not a very large player. Back in the '30's, we traded off any protection for our industry by opening the borders to free importation because the cost of the input was deemed more important than the value of a resident industry. As a nation, we have been driven by costs, not by value...particularly in agriculture, because it is production-based. We have not yet, in most sectors, crossed the bridge to be a marketing industry.

My great fear is that with the revolution on the horizon from Genetic Engineering, we will once again take the classic Canadian way out on a decision--study it to death--erect regulatory barriers, set up Royal Commissions--listen to fears of monster plants and monster pests to the point that, like the Pharmaceutical Industry, and our Agricultural Chemical Industry of today, Biotechnology will take root and grow safely and profitably, in Western Europe or the U.S.

Canada may not have a world scale crop protection chemical market, but we are a major player in the world food marketplace.

We do have a world scale scientific community here that is equal to any in the world. If there is nothing else that I leave with you today, I hope you recognize that the dicisions we make in the months and years ahead will determine whether or not Canada will be a major player in food production, and whether or not it can control its own destiny in the year 2000 and beyond.

Enough has been said on that subject--let's move on now to look at the Canadian market of 1984.

Canada's major food producing area lies north of the 49th parallel--that means we are operating in a cold, harsh climate. There's no better insecticide in the world than -40 degrees centigrade temperatures. Consequently, the Crop Protection Chemical Industry of Canada is nearly 75% a herbicide business, with fungicides and insecticides accounting for only about 12%.

We suffer from a national disease called chemophobia, brought about by constant stream of worries and concerns about toxic chemicals. Pesticides are toxic chemicals. If they weren't toxic, they wouldn't work.

If we look at the structure of our industry, there are just less than 50 member companies within the Canadian Agricultural Chemicals Association, and in total this encompasses nearly 6,000 people who derive some or all of their livelihood from the research, development, manufacturing or sale of crop protection chemicals. So, in people numbers,

we are a substantial industry. I think it's important to note that in the area of research and technical positions, almost 200 people are in the laboratories or the field in Canada. Most of them have a Master's or Ph.D. level education in Plant physiology, or a sister science.

Total sales at the retail level of companies with products registered under the Pest Control Products Act, in 1983 were some $711 million.

Of that number, 74% was in herbicides, of which almost 80% or over $400,000,000 was sold retail in Western Canada.

Today, the industry in Canada has two basic objectives, in addition to the supply of safe and effective compounds for use on Canadian farms.

Heading the list is a request for a serious and responsive initiative on regulatory matters. We are concerned that the length of review time in the regulatory system in Canada is much longer than it is in most developed countries in the world. We regard the need for stringent safeguards in the system as being completely valid. We feel, however, the resultant fragmentation of the process among four reviewing departments, time lost between departments, and the continuing refinement of guidelines as being critical elements in any future regulatory strategy.

We also feel that society must come to grips with the risk/benefit equation. With crop protection chemicals at the present time, the weight is very much on the risk assessment side. Benefits to Canadian farmers and the resultant higher standards of living crop protection chemicals bring to consumers, receive very little attention.

I can say, with some confidence, that the issue is now recognized at the senior levels of the Canadian Government, and it is hopeful that the process which has been initiated in the past year, will continue to a successful conclusion in 1985.

We, as an industry, recognize that pesticides are a toxic chemical class, which have an emotional side to them, unlike other inputs for farming.

We welcome involvement and advice from enlightened and reasonable people, with a high level of scientific understanding. We feel in this way public confidence and comfort with the crop protection industry will increase to the benefit of all Canadians.

Secondly, the focus of the Canadian Agricultural Chemicals Association today is on seeking a bilateral free trade agreement with the United States. Simply put, we're Canadians, operating a Canadian industry. We want to see as much security of supply of this critical input in Canada as possible.

We also want to see the jobs, the research dollars, and all the attendant support mechanisms be developed for this industry so that Canada can count on this vital resource for the future, and help, in its way, to build a strong basic food production sector here.

In 1984 significant strides were made on this front, and we're looking forward to the continuance of this economic development initiative in the months ahead, by the new government.

Now, let's take a quick look at 1985. As I've mentioned throughout, the Canadian crop protection market is almost 80% a herbicide market, and of that, the major portion is in Western Canada, with the Eastern Canadian market being more diversified than the West.

As we enter the spring of 1985, the forecasts are for increased acreages of feed grains and oilseeds.

Availability of Phenoxy and Wild Oat herbicides to service this market should be no great concern--in fact, with the early winter freeze-up on the Prairies, there are ample supplies of some of the major herbicides already in place.

Since October, 1983, to the same period in 1984, the Canadian dollar has eroded over 6% in value against its U.S. counterpart. The Canadian industry is a formulating business purchasing active ingredients in the world market generally priced in U.S. dollars. Therefore, it is likely that prices will rise 4-6% between '84 and '85 because of the costs of imported ingredients rising due to the weakened dollar.

From an overall mood within the industry, there is a certain cautious optimism. This has not been a growth sector for the last three years, at the manufacturing level. Any growth that has occurred in dollar sales has been basically a push through of costs. Volume increases, with the exception of a very few products, have been less than 2%.

Ladies and gentlemen, I hope I have given you some insight into the future of the crop protection industry in Canada. I do believe that we are at a very critical crossroads.

In the immediate future, we must recognize a balanced view of the risk/benefit equation is fundamental to a safe and effective regulatory system in Canada, and secondly, on the longer term, we must secure the advances in biotechnology and give recognition and support to Canadian scientists so that this industry is not traded off for short-term gain to our country's long-term detriment.

FINANCING AGRICULTURE -- PERSPECTIVES ON RECENT AND FUTURE CHANGES

Warren F. Lee

INTRODUCTION

Nearly all farmers, including those with little or no debt, are worse off financially now than they were three years ago. Their incomes are generally lower--net farm income in Canada declined by 38%--from $4.7 billion in 1981 to $2.9 billion in 1983. In addition to lower incomes, most farmers have also experienced declines in the market values of their assets (Farm Credit Statistics). While a majority of farmers are still financially secure, the FCC survey results indicate that 17% are experiencing "severe" financial stress and another 7% are in "moderate" distress. Here, as in the U.S., the incidence of financial stress varies greatly by region, by farm type, by size of operation and by age of operator. In general the hardest hit are young farmers with large operations put together recently with large amounts of borrowed funds. Moreover, a disproportionately high share of total farm debt is owed by those who are experiencing financial difficulties.

Brake defines financial stress as, "...a perceived inability to meet planned cash flow commitments." He goes on to note that "Few operators, or lenders for that matter, would have made contractual commitments they did not expect to keep. Simply put expectations (about farm income, asset values and interest rates) were erroneous."

The farm recession of the 1980's has retaught a lesson that a preceding generation of farmers and lenders learned during the 1920's and 1930's. Investments in agriculture, which are predominantly investments in land, offer low and unstable current returns.

Investments that offer low and unstable current returns should not be highly leveraged. Even during the prosperous 1970's, a majority of farmers, through good management, good luck or good timing positioned themselves to withstand a recession. Those who did not are experiencing financial stress.

The general consensus of those who forecast the agricultural economy suggests that there are prospects for a gradual, modest recovery through the rest of this decade; however, commodity prices and interest rates will be increasingly volatile. Despite recent declines, farm asset values remain high relative to current earnings. Any recovery in farm land values hinges upon expectations of higher returns and/or lower interest rates, neither of which is forecast. Thus, while land values may have overcorrected on the downside in some extremely depressed local markets, prospects for a strong general recovery seem remote.

RESPONSES

In the midst of adversity, a natural reaction is to blame someone else for your troubles. Lenders are accusing borrowers of poor management, overspending, etc. Financially pressed borrowers accuse their creditors of lending too much, providing bad advice, raising interest rates, etc. Of course, everyone blames the government. It is argued, for example, that irresponsible fiscal, and overly restrictive monetary policies caused excessively high interest rates which in turn caused a world wide economic recession and an over-valued dollar. High interest rates and an over-valued dollar caused farm commodity prices and asset values to drop.

To the extent that farmers, lenders and the government must share the blame for the current dilemma, it seems reasonable that they should also share in the search for solutions.

Policy Responses

A pure market solution to farm financial stress would be to allow creditors and debtors to resolve their conflicts in or outside of the courts and take their losses. Indeed, the market solution might be the quickest and most effective way to resolve the problem of excess capacity and over-valued resources in agriculture; however, a pure market solution is likely to be politically unrealistic.

Since a relatively small porportion of all farmers need help, Tweeten argues that government aid should be as carefully targeted as possible. For example, supporting commodity prices for all farmers at levels needed to assist the one-quarter that are in distress would be prohibitively expensive, and would only defer needed adjustments in productive capacity and asset values. Other non-targeted options such as concessional interest rates and farm foreclosure moratoria would have serious, long-run, adverse impacts on agricultural credit markets.

The U.S. is in a transition from a non-targeted to a targeted approach. The non-targeted, 1983 Payment-In-Kind (PIK) program was the most costly American farm program in history.

The Administration recently announced a more narrowly targeted debt-restructuring program (Harl). The key features of this initiative are:

(1) A set aside on Farmers Home Administration (FmHA) indebtedness of up to 25% (or $200 000, whichever is less) of principal and interest due for a period of up to five years.

(2) Ninety percent loan guarantees for commercial lenders who permanently write off at least 10% of principal and interest due.

(3) Expanded management and financial services for farmers and loan servicing assistance from FmHA.

(4) Eligibility for this program is limited to those who gain sufficient relief from the set-aside of write off to meet projected cash flow commitments, with a 10% margin for unanticipated expenses.

It remains to be seen whether a debt-restructuring program will be effective or workable. Its main advantage is that it is an attempt to reach only those who need assistance instead of increasing

all farmers' incomes to save a few. At worst, it may become an administrative nightmare. Deciding who is eligible and determining which operators can meet the cash-flow feasibility test is going to be a very arbitrary procedure.

There is an urgent need for increased financial, legal and I would add, personal counseling for those being forced out. The social costs of financial stress in agriculture are high, as the recent movie "Country" dramatically portrays.

The shift from asset based to cash flow based lending has significantly increased the demand for financial information and management skills, and it's not clear how this demand will be met. Publicly supported record systems both here and in the U.S. reach only a small porportion of farmers. Lenders, who have the most to gain, are hesitant to become involved in management assistance and advice. Perhaps the private sector (accountants, consultants, etc.) will respond, supported by new microcomputer technology.

Financial Market Responses

Two approaches have been suggested for improving farmers' capacities to meet planned cash flow commitments in the face of unstable incomes and interest rates. One is to build some degree of flexibility into farm debt instruments. The second is to increase the flow of equity capital into the industry.

The details of propsals for modified debt instruments are described elsewhere (Lee and Baker). Basically, these proposals would allow the debt servicing commitment to fluctuate with variations in net income. The "voluntary" plan would allow the borrower to make reduced loan payments in low-income years by reborrowing against accumulated equity. Another version would adjust the payment according to a farm income index. The payment to the lender would be stabilized by making deposits to or withdrawals from a payment insurance fund, so that surpluses from the good years are reserved for the bad ones.

To date, the common response of lenders to fluctuating interest rates has been to transfer this risk to borrowers through variable-rate loan contracts. The major problem with variable rate lending is that the reduction in interest rate risk is largely offset by an increase in default risk.

A relatively simple procedure for reducing the impacts of changing interest rates is to eliminate or minimize variations in the loan payment by allowing the term of the loan to vary. For example, to maintain the $1339 payment on a $10 000, 20 year, 12% loan, the term would be extended to about 29 years if the interest rate increased from 12 to 13%. Without the flexible term, the payment would increase to $1423.

Most lending institutions could also fix interest rates for borrowers by matching the term structure of their own assets and liabilities. For example, five-year, fixed-rate loans would be funded by issuing five-year, fixed-rate bonds or deposit instruments. Heffernan's work suggests that precise matching is difficult to achieve in practice. Moreover, given a normal yield curve, gains from fixing the interest rate will be offset by a higher interest rate.

The recent emergence of financial futures markets offers a promising new method of removing interest rate risk from the financial intermediation process (NC-161).

To date, however, few agricultural lenders have used this tool--for many of the same reasons that most farmers do not use commodity futures markets to manage their own price risks.

Most farm businesses experiencing financial stress share a common problem--they have too much debt and too little equity. Since real estate assets dominate most farm balance sheets, infusions of equity capital into an individual business, or the industry for that matter, will require shared ownership of the land. Outside ownership of farmland is contrary to strong held beliefs and values; however, as Melichar points out, farm real estate is "a 'growth stock', best and most easily owned by those who can tolerate its low current return in the first few yuears after its purchase." As we have observed in the last few years, many farm owner-operators could not tolerate the low current return to land.

The potential gains from an equity infusion are illustrated in Table 1. By selling and leasing back the real estate, the rate of return an owner equity in this overly leveraged situation is increased from -23% to +3.25%.

If this approach to resolving immediate financial problems or to achieve longer run financial stability has merit, Canadian agriculture needs more separation of land ownership and management. About one-third of Canada's farmland is rented, somewhat less than in the U.S. but still a significant proportion. This suggestion almost always brings out fears of absentee, corporate or worse still, foreign ownership; however, most farm landlords are retired farmers or their families who reside locally. There may be cost-effective tax or other policies that would encourage more retiring farmers to leave their equity in agriculture instead of depositing it in a bank or trust company. Lowenberg-Deboer and Boehlje have identified income-tax incentives for landlords who lease to beginning farmers as a lower cost, and potentially more effective method of assisting new entrants than government credit or land ownership programs.

Public opposition notwithstanding, a few farmers are tapping the "outside" equity capital markets (Moore). An Ohio farm family, featured in a recent Wall Street Journal article, have expanded their operation throughout the recession using sale and leaseback arrangements involving overseas investors, coordinated through Continental Bank. In some states, and I think in some Canadian provinces, these creative financing arrangements are prohibited by law.

Let's set aside for a moment, the idea that farmers should own their land and consider the possibilities of a formal secondary market for farm real estate. For lack of a better term, let's call it a "mutual fund" for farmland. This fund would assemble funds from financial institutions and individuals seeking long term returns instead of current income. The shares would be sold in relatively small, divisible units to stimulate the development of a secondary market. It would be subject to the same rules and regulations that apply to existing securities markets.

Assurance of continued control by farm operators could be achieved by long-term renewable lease contracts and first option to buy clauses.

Mutual funds would take the "lumpiness" out of farmland investments. Farmers could more easily expand or contract their operation, and they could adjust their real estate holdings by exercising the buy-back clause or by purchasing shares of the fund. Owners would benefit from increased marketability and diversification.

It is very unlikely that this approach for increasing the flow of equity capital into agriculture will be used anytime soon. Three attempts in the U.S. failed because of strong opposition from farm organizations. The common objections are that land ownership would become concentrated in the hands of outsiders, that land prices would be unfairly bid up and that family farmers would be forced out. It can be argued however, that just the opposite would occur.

Land ownership would be more widely dispersed than it is now, and the liquidity and diversification offered by a secondary market would, if anything, cause land values to more quickly adjust to fundamental economic forces instead of overcorrecting in both upside and downside markets. The ouside equity would offer family farmers additional financial stability which would tend to keep them in business during recessions, not force them out.

SUMMARY AND CONCLUSIONS

About one-quarter of Canada's farmers are experiencing moderate to severe financial stress following three years of low incomes, declining asset values and high interest rates. Although the outlook for some improvement is cautiously optimistic, no dramatic turnaround is forecast. Methods and programs for financing agriculture must address the problems of current distress as well as serve an industry that, over the long run, will be characterized by income instability and low current returns to investments.

Policy responses to current problems should take the form of targeted assistance to those experiencing financial distress. Carefully designed debt restructuring and counselling on a case by case basis are possibilities. Costly programs that benefit all in order to save a few should be avoided, and so too should foreclosure moratoria and other interventions that could deny lenders their legitimate rights to secured claims.

Modified debt instruments would help farmers cope with low and unstable incomes; however, long-run financial stability will depend on greater amounts of equity, not debt, capital. Tax or other incentives could be offered to retiring operators to encourage them to leave their money invested in agriculture. It may also be possible to encourage the development of a secondary market for farm real estate investments without compromising social and efficiency goals.

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TABLE 1. ILLUSTRATION OF AN EQUITY INFUSION

Present Situation	
Assets = $1000	Debt = $800 (12%)
(land = $750	Equity = $200
Return on assets (5%)	= $ 50
less interest (12%)	= $ 96
Return to equity	($46) (-23%)
[Sell and lease back $750 in real estate and pay off $750 of debt]	
Situation after Sale	
Assets = $250	Debt = $ 50
	Equity = $200
Return on assets controlled	= $ 50
Less rent (5%)	= -37.50
Less interest (12%)	= - 6.00
= Return to Equity	= $ 6.50 (+3.25%)

THE FUTURE OF FOOD MARKETING IN CANADA -- A FOOD MANUFACTURER'S PERSPECTIVE

S.J. Ballard

In the time at my disposal I will give you a quick overview of the current position of the food processing industry in Canada and hopefully from this base, make some observations on the topic, "The Future of Food Marketing in Canada".

Although I do not presume to speak on behalf of the entire food processing industry, I will draw on my knowledge of the several food processing sectors identified with the Burns Foods group. The Burns Foods group of companies is involved in the dairy industry, meat packing and processing, vegetable oil, fresh and frozen fruits and vegetables, and a wide variety of grocery products including soup bases, sundae toppings and pie fillings. Although primarily a Western-oriented company, the Burns group has approximately 70 plants and branches located across Canada supplying both the retail and foodservice industry as well as the export trade.

I am pleased that the emphasis for our discussion this afternoon is on the marketing of food in Canada, for in the final analysis it is the food manufacturers' ability to respond to marketing opportunities that will ultimately determine its future. In any discussion of food processing we cannot view marketing in isolation but must look at it in the broader concept of the entire agri-food system which includes the producer, the processor, the retailer, foodservices and, ultimately, the consumer and I am looking forward to hearing speakers from both the retail and foodservice trade.

The food manufacturing industry will face major challenges during the remainder of the 1980s. Some sections of the industry are well positioned to cope with those challenges while some sectors are quite vulnerable. Hopefully this afternoon we can identify and look at some options for the growth of food manufacturing in Canada during the balance of the '80s.

Food and beverage processing operations average $35 billion per year in value and constitute an important link in the Canadian agri-food system. Other components include input suppliers, farming and fishing, wholesale and retail grocery operations, and hotel, restaurant and institutional catering. Because of the considerable size of the agri-food system, its performance has a significant influence on economic growth and employment in all the country and its regions. It is estimated the agri-food system accounts for fully one-sixth of the total economic activity in Canada.

The food processing industry is represented by 4600 plants dispersed across the country, and supplies 90% of domestic demand for processed foods and beverages. The viability of the agri-food system and its value-added activity has been an important component of the industrial strategies of both the federal government and the provinces.

Today, almost a quarter of a million Canadians are directly employed in the 17 sectors of the food manufacturing industry.

Several disturbing trends emerge as we take a quick overview of the food processing industry. Nineteen eighty-two Statistics Canada figures reveal a sharp downturn in the increase of shipments, both for the total industry and for the 17 sub-sectors. This downturn continued through 1983.

The 1982 figures indicate a total value of $33 billion, an increase of only 3.7% over 1981 and an increase of 4.7% in 1983. This compares to an average yearly increase of 11.6% going back to 1971. These increases are well under the level of inflation. Considering steadily increasing industry costs, it's obvious some of the difference was made up at the expense of industry profitability.

The food processing industry has traditionally operated at profit levels considered totally unacceptable by almost any other Canadian business sector. The industry's after-tax profit per dollar sales was only 2.6% in 1978, dropped to 2.02% by 1981 and declined further to an all-time low of 1.7% in 1982. Margins recovered slightly to 1.9% in 1983 however, during the first quarter of 1984 dropped to 1.6%.

It is difficult to make strong forecasts for the industry. Unfortunately there appears to be as many different opinions on the subject as there are economists and forecasters!

Food processing shipments in the first half of 1984 increased 6.5%. This is an improvement over 1983, when shipments rose 3.0%. However, when you apply an inflation factor of real value of shipments increased only 0.8%. The good news is that this is a turnaround from 1982 and 1983, when real shipments declined. Providing the third and fourth quarter results continue strong, then annual real shipments will increase for the first time since 1981 and should be in excess of $36 billion.

As I indicated earlier, the Burns Foods group is involved in a broad range of food processing operations. I would like very briefly to touch on three segments - Meat, Dairy and Vegetable oil.

MEAT INDUSTRY

The meat industry, especially in Western Canada moved into the '70s and early '80s with the worst of all worlds:

- declining cattle supplies
- a major shift in hog supply from Western to Eastern Canada
- an unusually large amount of plant capacity
- rampant inflation and high operating costs (Wage rates had increased every year since 1943 and were the same across Canada even though economic conditions differed greatly.)
- low or non-existent profit margins due to excessive competition in both the purchase and market of fresh and processed meat products.
- consumer resistance to higher meat prices resulting in a 20% drop in per capita consumption.

- and changing consumer eating habits brought about by the aging population and changing lifestyles.

The stage was set for rationalization of the industry and a move to more aggressive marketing strategies.

Our company took the lead with the closing of plants in Medicine Hat, Edmonton and, more recently, Calgary and Kitchener. Competitors were forced to respond and we have seen numerous closures across the country. In 1978 there were 17 major packing plants in Alberta; today, just six years later, there are only 10. Even with these closures, plant utilization, in Alberta for example, is running at approximately 78% of capacity - too low to generate an acceptable return on investment. All signs point to future shrinkage in cattle supply, lower plant utilization and further closures of beef plants. Obviously the industry must streamline its way of doing business. In addition to closing older plants, the industry must develop better systems and sustain productivity standards required for the '80s.

Consumer resistance to buying beef - brought about by changing consumer buying habits - has caused beef consumption to fall by more than 20% in the past 20 years. And unfortunately, very little marketing or promotional activity has been generated to reverse this trend.

All of us remember the advertising slogan of a major retailer: "It's mainly because of the meat". This has been replaced with a new slogan "Where's the Beef" and just recently I read that this slogan has been changed to "I've got the Chicken". Competition from the poultry industry continues to be of concern. I believe there is a message here to the meat industry. For too long the beef industry neglected the basics of good marketing. They forgot to tell the consumer about the benefits of their product. Despite consumption from poultry, consumption of red meat is higher in the U.S. than Canada. One reason could be a more aggressive marketing policy by the U.S. red meat industry.

However, I believe the meat industry's current marketing problems can be addressed by the co-operative efforts of the packing house and livestock producer industries and I congratulate the beef industry on their recently launched "Lookin' Good Beef" campaign. My only suggestion would be that the budget should be increased tenfold from the current $3M level. However it is a step in the right direction.

What about the future of the meat industry? What we desperately need is an industry that can earn an acceptable return on investment allowing re-investment in the industry.

National and international competition is putting heavy pressure on profit margins.

The gap between American and Canadian wages is giving the Americans a clear advantage in terms of operating costs. Productivity gains in the U.S. industry are higher than in Canada. The implementation of new technology is needed in Canada, however, this is costly and difficult to adapt for the smaller Canadian plants.

The international market presents a number of opportunities. However these opportunities have been stymied by severe price-sensitive competition and artificial political barriers. For example, the EEC community, which has been a good outlet for fancy meats (offals) and other cuts over the past 60 years, is now imposing severe processing restrictions which will virtually disqualify 80 to 90% of the Canadian supply product. In the meantime, heavily subsidized meat products from various EEC countries are flooding international markets such as Japan, USA and even Canada. This is an area where the industry requires the support of government to government negotiations. Additional export opportunities are also available to expand sales of fresh and processed products to the United States and Japanese markets.

DAIRY INDUSTRY

In contrast to the meat industry the Canadian dairy industry is relatively healthy. In recent years, it has changed drastically moving from a network of family-owned independents to a highly concentrated business controlled by a few large multi-nationals and co-operatives. It has only been in recent years that rationalization in the number of processors licensed has seen a more orderly development of processing plants. This rational approach has encouraged the development of several world-scale size dairy operations in Canada including Palm Dairies modern plant in Edmonton, Alberta. This rationalization has brought economies of scale to the industry and has provided the consumer with uniform quality products, better sanitation and low prices. And, in fact, it has intensified competition.

The key to growth and profitability in a mature and highly regulated industry is efficiency generated by multi-products. Centralized plants have introduced high-throughput machinery and cut distribution costs.

As per capita consumption of milk is relatively flat and encounters intense competition from juice and soft drink suppliers, the industry has had no choice but to market as aggressively as possible.

Although per capita consumption of some dairy products has edged downward since 1977 and dairy has not been a growing category overall, certain products are creating a great deal of activity within the industry. The number of new dairy product introductions has grown significantly over the last few years. This new product activity is in direct response to growing consumer interest in natural ingredients and nutritious food, and the increasing desire for convenience products that suit today's active life styles. After all milk, cheese and yogurt are basic contributors to a healthy diet. The growing controversy over cholesterol and lower calorie products has caused many whole milk drinkers to switch to low-fat milk products but they're still drinking milk and identify dairy products with good nutrition.

The get-slim trend is also shifting consumption of curd and creamed cottage cheese to the low-fat variety. One of the most successful stories of the dairy industry is the marketing of yogurt. Yogurt not only attracts the calorie cutters but its popularity has grown and its market position has broadened. It's now considered plain, good

food -- a natural and nutritious treat enjoyed by all ages. The yogurt market is far from being saturated and new yogurt variations are creating product sub-categories.

New technology has opened up an entirely new direction for the dairy industry with the introduction of UHT (ultra high temperature) aseptically packaged milk.

This new product appeals to the needs of today's on-the-move consumers. Unopened, aseptically packaged UHT milk has a shelf life of 120 days and can be stored without refrigeration - a real convenience to the busy consumer. The dairy industry sees the potential for UHT flavoured milk products to cut into the large soft dring market. Although initial acceptance of UHT milk products has not been spectacular, it offers great potential for broadening the market for fluid milk sales.

It's interesting to note that the Canadian dairy industry has been the leader in introducing this new technology to North America. The first aseptic equipment was located in Québec. Palm Dairies' Vancouver plant was the second dairy to pioneer aseptically packaged drinks.

This new technology has had an interesting offshoot benefit. Many dairies who originally purchased this new technology for milk based products find they have the leading-edge on the exploding boxed drink juice business, the fastest growing segment of the food industry. As a result of this new technology Palm Dairies has initiated an entirely new department to market a variety of boxed juice products.

An anomaly of the dairy business is the strong growth of the premium ice cream segment. Although the total ice cream category is relatively flat, premium and super premium ice cream is "hot". While quality is a perceived benefit of premium ice cream, image is definitely a big part of the growing demand for this category. Today we have a proliferation of foreign sounding names that propel the sales of premium ice cream. This category offers new marketing opportunities for the dairy industry in the '80s.

In contrast to the failure of the meat industry over the past decade to use basic marketing tools to build a consumer franchise, credit must be given to the dairy industry for its commitment and initiative in supporting the industry with strong advertising over the years.

CANOLA INDUSTRY

The canola industry is an exciting Canadian success story. Canola is the name given to the new, nutritionally superior strains of rapeseed and is the result of outstanding work by Canada's plant breeders during the past 15 years.

The canola processing industry in Canada has grown from its infancy in the late '50s to a 10 plant industry in 1984 with a processing capacity of 1.7 million tonnes of seed annually. It plays a major role in Western Canadian agriculture and produces major economic benefits for all of Canada. The total direct economic value of the Western canola industry amounted to $630 million in 1983.

Seventy-two percent of all salad and cooking oil used in Canada is made from canola oil; 38% of the margarines, and 47% of the shortenings. The most serious problem facing the canola industry, especially during the past two years, is the shortfall in seed supply to meet the needs of the export and domestic crushing industry. The Canola Council of Canada is taking positive action to help correct this problem through its $3.6 million, five-year "Grow with Canola" program, the target of which is to raise canola yields by 25%.

This is a very worthwhile program for everyone and we encourage the Government of Canada to financially join with industry to see that this program is a resounding success.

The industry is currently plagued with overcapacity which will require new marketing initiatives if it is to continue to grow and prosper in the '80s. It is increasingly evident the major marketing initiative must be directed to the export trade. This market expands or shrinks yearly depending on oilseed production in countries such as the USA, Brazil, Europe and Malaysia. The western crushers will be dependent on the export market for about two-thirds of canola oil and one-half of canola meal sales.

Our most exciting potential export market is the United States. The federal government has applied to the United States government for GRAS (generally regarded as safe) status for canola oil. Technical evaluation of canola oil is still being done by agencies of the United States government but meanwhile the potential market opportunities are being explored by individual Canadian firms.

Aside from being able to market canola to the United States, there are two other important benefits to receiving GRAS status:

1. Countries that pattern their food import laws after those of the United States will be encouraged to allow canola oil into their markets; and

2. Canadian manufacturers will be able to process products such as french fried potatoes with canola oil for export into the United States.

One caution, the United States market is well developed and, as in Canada, canola oil will have to compete with soyabean, palm and other oils in quality and price, however we are optimistic that the U.S. market represents a significant potential for the Canadian canola processing industry.

As I have already indicated, the 1980s present a significant change in market conditions originating from the consumer, passing to the food distributor and back along the food chain to the food processor.

One of the most far-reaching changes influencing the food industry is the accelerating trend of merger and consolidation in both the United States and Canada. Static market shares and concentrated buying power have pushed the food industry into a shopping spree of acquisitions and take-overs.

While some food companies have opted for megamergers choosing to buy large established companies with established brand lines, other companies

concentrate on more aggressive internal development and small selective acquisitions to complement their product line. The target is to acquire niche-filling acquisitions. The trend to mergers recognizes that growth through internal development is both an expensive and a long-time venture.

Today, the focus is on "fit" or "corporate culture" when considering acquisitions. Companies are looking for other companies whose products and distribution are compatible with their current culture.

When you consider the substantial dollars spent on marketing and trade promotions, there is great concern that some smaller food companies will be hard pressed to keep up with this "upping the anti". Most industry observers believe the biggest drain on food processors' earnings right now are fast-rising advertising and promotion costs in an increasingly competitive market. In fact, any margin gains anticipated by some lower commodity prices are being wiped out by dramatically increasing market expenses. The next few years will determine which companies can go the distance.

The food manufacturing industry is marked by slow growth and therefore operates in an extremely competitive market in a fight for market share among major competitors.

There are several generic marketing strategies the industry can take. First, there is the strategy of differentiation where a manufacturer attempts to differentiate his product line and gain a higher price for this uniqueness. A second strategy is to take a position of overall cost leadership through a combination of working smarter and achieving economics of scale through high volume. The third strategy is a 'focus strategy'. A company picks a small piece of the market and services it well with a good product line specifically directed for that market niche. For a food manufacturer to survive in the eighties, he must use at least one of these strategies. And in many cases he will use a combination of all three. The more sophisticated companies will achieve overall cost leadership as well as differentiation.

A company which pursues overall cost leadership not only attempts to achieve high volume through high market share but also aggressively pursues every possible innovation in manufacturing and distribution efficiencies.

This is one area Canadian manufacturers should take a long look at. I believe there are great opportunities for food processing companies to pool both manufacturing and distribution facilities that will achieve increased efficiencies and result in lower overall distribution costs. We cannot affort to re-invent the wheel. The Burns group has already moved in this direction and is actively exploring additional opportunities for cost sharing projects.

Based upon the premise that the food manufacturing industry is in a mature or no growth environment with few new technological advances, it would seem companies, in addition to strengthening their marketing skills, must look for improvement in innovative production and physical distribution. When we consider the implication of Canada's geography and the uniqueness of regional markets, the industry needs a substantial amount of organizational and program flexibility to adopt marketing strategies to suit each region of the country.

Manufacturers must initiate action that will reduce the total system costs for the benefit of each of the players in the agri-food system. A key issue is how processors can deliver products to the consumer more effectively and efficiently.

The weakness of consumer loyalty in many categories makes it imperative that food manufacturers become more proficient in understanding the options available to them to market their products during the '80s. Let's look at some particular challenges or opportunities currently facing Canadian food manufacturers.

1. As we have said, there is pressure to find ways of increasing volume in view of no population growth, limited innovation and many declining categories.

2. There is pressure on prices because there is less consumer loyalty, more price sensitivity and trade power.

3. The industry is faced with extra pressure on margins because of rising costs, increased trade demands, marketing boards and governmental regulations.

4. A combination of demographics, lifestyles and nutritional concerns has resulted in a change in consumption patterns in the 1980s. The big changes range from red meat to white meat, processed fruits and vegetables to fresh produce, and processed cereals to natural products.

5. The food processor is facing slow or no-growth markets for traditional products. He is having to search out niche markets for products and must distribute to a proliferation of new vehicles from box stores, superstores, specialty stores and an increasingly diverse foodservice industry.

6. The greatest pressure on food manufacturers is to find ways of improving profits. Even large companies, whose products are differentiated and who are often leaders in their product segment, are facing severe problems in the current no-growth and lower margin environment.

CLOSING

Alvin Toffler in his book "The Third Wave" states that business is being shaken and transformed by change and that many managers do not know what has hit them.

I believe the Canadian food processing industry is responding to the challenge of change. However the industry cannot reach its maximum potential in isolation. The food processing industry must respond aggressively to the emerging trends in consumerism and then respond to the shifting balance of power between the merchandisers and the manufacturers. The future of food marketing in Canada is dependent upon a high level of interaction and co-operation from all segments of the agri-food system from producers, through the distribution system and finally to the end user, the consumer.

This afternoon I've taken a brief look at the future of food marketing in Canada -- identified some options and, finally, focused on some challenges and opportunities that might be of benefit to the entire agri-food sector.

THE FUTURE OF FOOD MARKETING IN CANADA -- "A FOOD RETAILER'S PERSPECTIVE"

Dr. John Morris

What are the challenges in marketing facing us in the food retailing business? First of all, as you have heard ad nauseum, we are faced with a flat market. We are not getting the population growth. Gone are the days of population growth of 2% as we saw in the 1950s; 1½% in the 1960s; 1.1% in the 70s -- from now through to the end of the decade at least, the population growth is going to be 0.8%. Gone are the days of rapid inflation; gone are the days of rapid increases in real disposable income. We heard a figure, earlier this afternoon, of 0.5% -- it's hardly worth writing down.

What's this leading to? It's leading to, in fact, increased competition. The competition we're getting is both traditional competition from other supermarket companies and also non-traditional competition. One of the biggest areas of competition we are getting in the U.S. right now is competition from drug stores. If you look at the large combination drug stores and open their advertising flyers any weekend, almost all the items on the front page are traditional food items. We are getting competition from specialty stores. Just walk through the Rideau Centre and they are all there: butcher shops, cookie stores, ethnic stores -- this is all eating away at the business of the traditional food retailer. Who would have said that a company could start with one product, the chocolate chip cookie and make an absolute fortune out of it. There is a company in California, Mrs. Field's Cookies, which has taken the chocolate chip cookie, made it better and made a fortune.

We are also getting a change in formats. There was a time 20 years ago where a supermarket was a rectangular box that was either 10,000 square feet, 20,000 square feet, or if you were lucky and lived in Moose Jaw, 28,000 square feet. Nowadays, we as a company, have 14 different formats of stores as we try to match our stores to the particular market. Basically, it seems that in Canada, stores are coming down to 5 types. We have the convenience stores, which are still growing very rapidly -- they offer service on off hours and they offer speed of shopping. We have the specialty stores, as I mentioned before, the cookie stores, the butcher stores, the fish shops and the ethnic stores. We have the price stores -- either discount stores, the warehouse stores or the box stores. Our feeling is, that in most markets, the maximum penetration for a price store is about 30% of the market. We have the one-stop shopping stores -- trying to put together the right combination of quality (particularly in perishables such as meat, produce, bakery and delicatessen) selection and service. And then we have a whole lot, in fact far too many, regular supermarkets that are still trying to find their place in the market.

Our customers are becoming more complex. We now have customers who won't fit into those nice little boxes. And I tell you that any of you and anybody in our industry who still continues to use the term, "Mrs. Consumer" is out of touch with what's really going on. In many of our markets, 40% of our customers are men. And I think, besides being a demeaning term, it's totally inappropriate. The market is more complex than that. We find also that individual shoppers seem to provide contradictions. We can't always predict what they will do. People will buy generic bleach in one part of their shopping cart and caviar in the other. They'll buy generic paper products and lobster paste. One of the biggest mistakes we ever made was assuming that low income people were the people who were going to buy generics. We assumed that it was low income people who were going to run to warehouse stores. That isn't the case, it's much more complex than that and we find, in fact, in many of our stores in the U.S. that we sell more steaks as a proportion of our total order in areas where there is a heavy food stamp population compared with the normal population. Those are some of the complexities we face.

There are also changing consumer tastes, and you have heard about this before, but it's very true that the words "lean" and "fresh" are very much in vogue. Lean meat, low-fat milk, whole-grain bread, low-fat yogurt, fresh produce. In fact, 10 years ago the main reason why people chose a store was meat. What we are finding now is that 2 of the 4 main reasons why customers choose a store are because of produce; it's because of the quality of the produce and because of the range of the produce. And we have tried to respond to this -- instead of offering 65 items of produce as we did several years ago, we now offer 180. Many of these are imported and exotic products. That has implications for agriculture in Canada.

In fact, the market is becoming more segmented and in trying to respond to this we are adding new departments to our stores. We're adding delis, we're adding cheese shops, we're adding natural food stores, and in fact, natural food departments are the fastest growing sections of our stores. We're adding flowers and plants, we're adding seafood, we're adding a bakery, we're adding insurance, we're adding automated teller machines, we're trying shoe repair, we're trying insurance, we're trying many other things. And what's more, we're getting into pharmacies -- we're going to get our own back at those guys at the drug stores who are trying to sell our foods.

Beef has been mentioned. Beef consumption has declined by somewhere between 20 and 25%. Well, we can say, it's just the beef cycle. I can assure you that there has been a shift in demand for beef and we are going to be lucky if we can maintain the present levels of beef consumption, let alone increase it. We, as beef producers and beef marketers have not responded to the realities of the marketplace. How have we responded? We've done generic advertising. What a waste of money! There is absolutely no evidence that generic advertising has done one whit to increase the consumption of any product. As to say, "Beef looks good" -- you put the stuff in your mouth not in your eye.

What the beef industry has not done is develop new products. What the poultry industry has done is develop new products and respond to consumer needs and respond to retailer needs. We now market more

than 30 further-processed chicken and turkey items that were not on the shelves 10 years ago -- and they run the gamut from thin sliced, fresh tenderloin breast of turkey, which compete with veal at about $2 a pound or less right through turkey pastrami, turkey ham, turkey weiners through ground turkey. Ground beef constitutes about 40% of our beef sales. Now we've got a challenge from turkey, a leaner, lower cholesterol product with less-saturated fats. Don't think that is going to go away. And also don't think that those arguments you hear from the National Science Council and other groups throughout the world relating the problems of heart disease to red meat are going to go away either. There are going to be more of those and we need to face up to them, but the way we need to face up to them is by making new products, by making our products more adaptable and more what the consumer wants.

How much have we done towards consumer education by exploding a carcass in the meat department in our stores? Let me tell you firstly that most people do not want to associate the meat with the live animal. Most people are 2 to 3 generations removed from the farm. And even if you do tell people it's a point-end brisket, so what -- what do you do with it? How do you cook it? That's our contribution to helping the consumer use more beef. What have we done towards making the beef more convenient for woks, for example? Ten years ago, nobody knew what a wok was. But now, I would venture to say that in California probably about 50% of the households have a wok, and people know how to use them -- they are looking for products. What do we do? We bone our chicken legs; we give them thin cut strips of pork. What has the beef industry done? -- nothing. What's the chicken industry also done? It has responded by taking the labor out of our stores. One of the biggest problems in our meat department is the cost of labor in cutting beef. Chicken now comes in pre-cut, pre-wrapped, pre-priced, a UPC code on it. All we do is ring up the money and run it off to the bank. That's the sort of product we like. Compare that with beef -- the amount of labor required in beef is unbelievable. Pork producers in the U.S. are now starting to respond also. We are now getting pork with recipes on it. We are doing a test in some of our stores right now with particular cuts of pork, pork kabobs, thin cut strips of pork and so on. What's happened to beef? -- nothing yet. What's going to happen? -- I believe what's going to happen is the beef is going to come into our stores boneless, pre-sliced, put back in cryo-vac and then, what we will do is take unskilled labor and tray it only at the store. We will not have, in the long term, butchers cutting meat at the store. It's more efficient to cut it pre-retail. That's going to push more work back on to the processor. I don't believe the retailer is going to do it; and there are a number of other retailers in this country who are learning the hard way, like we did, that maybe that's a business we shouldn't be in. We have got to provide what the customer wants.

So what does all this mean for production agriculture? I think it means firstly, you have got to be more adaptable. Secondly, you have got to be much more flexible. Thirdly, you have got to be more innovative. Fourthly, we are going to be more demanding. Why? Because with electronics, with scanning we now know what sells in our store every minute of every hour of every day. And now we are starting to develop systems where we use that information to develop shelf sets. Those products that move will get the allocation of shelf space -- those that don't, won't. It means we are going to be less tolerant of products that do not perform and new products as well will need to be well tested before we'll accept them. At the same time, the industry is getting in to what we call direct product profitability. Gone is the day of gross margin, we are now looking at net margin. What contribution does your product make? And this is where beef has problems, because the gross margin on beef is O.K., but when you really allocate your labor and in-store wrapping costs on beef, it does not look as attractive. So with direct product profitability and scanning, we are going to have the information and be less tolerant of non-performing products.

The other thing that is happening in our industry in order to survive, and it sounds like a cliché, each of our individual stores is going to need to do a better job than our competitor in meeting the needs of the particular clientele of that market. We have 2600 stores, and I would venture to say that there are no 2 stores of ours that have exactly the same customer mix, exactly the same demand. Therefore, we are going to be getting away from the cookie-cutter system, where every store is the same, every shelf set is the same -- we are going to try and tailor it to customer demand. Now that makes it much more difficult for those of you in the processing industry, supplying us, but those are the facts of life. I think, I know, you cannot assume and we cannot assume we will automatically get our past profits, our past sales and our past quantities. We can't go by last year's results. We need to look at what the reality in the market is this year. We can't have, and I can assure you that you can't have, inflexible attitudes and inflexible institutions. If you don't supply what the customer wants, I can assure you somebody else will. And it might well be an imported product.

It's time to recognize the realities of the market, and we'll have to do this, and you in production agriculture will have to do this by really marketing and employing marketing experts rather than just paying it lip service. It has been a handy buzz word for the last 20 years. We need to get away from our traditional production orientation -- look at what the customer wants rather than what is convenient for us to produce. You'll need to do more market research. We are being forced to do more market research, and this demand is going to grow. You're going to need to do market research rather than this catch-all we have used in the past of consumer education. If ever there has been a misunderstood concept and a concept that people see as a panacea, which has absolutely no chance of being a panacea, it's so-called customer education or consumer education. You could spend 3 times the GNP of this country, the U.S. and any other 20 countries you like and you probably wouldn't make a dent on consumer demand if they didn't want to change. What you do have to do is recognize the difference between what we can change and what we have to adapt to. And I tell you in the food market and the food retailing business, there is a lot more that we have to adapt to than we can ever change. We don't have it in our power and I'm sure you don't have it in yours.

At the same time, I don't want to be considered a 'gloom and doom merchant' as everybody else has been -- I would say to you quite sincerely, I believe this is a time of unprecedented opportunity because the market is segmenting. There are various niches in the market developing. All that presents opportunities. There are plenty of competitors that are folding up their tent and getting in to some other business. That presents an opportunity. The market is dynamic, it's changing -- there is tremendous opportunity, but what we have to do is do our market research and provide what the market wants rather than what's convenient for us to produce. The projections you make are only as gloomy as you want them to be. Thank you.

THE FUTURE OF FOOD MARKETING IN CANADA -- "A FOOD SERVICE INDUSTRY PERSPECTIVE" -- "DEVELOPING OUR RESOURCES IN GLOBAL PERSPECTIVE"

Frank Go

Traditionally, Canada has been a nation of primary producers, including mining, logging, and farming. The latter, or agri-food business remains one of today's foremost industries. However, current changes in the economy will have a dramatic impact on all businesses involved in the agri-food chain, from farming to foodservice, especially in terms of employment, i.e. assuming that the Canadian situation parallels developments in the United States where a recent study revealed that:

"Agribusiness jobs have shifted away from farm and manufacturing into service enterprises involved with food distribution. This trend will continue to the year 2000 and beyond. Labour intensity in farming will be pared back because increasingly farmers will mechanize to harvest, process package, palletize, shrink wrap, and load crops onto delivery trucks--all in one continuous sweep across farm fields. Food manufacturing plants, already highly automated, will become even more so. Food retailing is experimenting with cable television, home computers, electronic fund transfer, and point-of-sale terminals to make teleshopping a commercial possibility. Most labour intensive of all are foodservice operations. Eating away from home accounted for 37% of the food dollars spent in 1981. This number will increase to 50% by 1990.(1)

As the trend toward more employment in the service sector continues, shifting job opportunities away from farm and manufacturing to retailing and foodservice, the restaurant industry will be among the economic sectors likely to receive more government attention in the future, because of its potential to stimulate the economy through small business development and job creation.

THE RESTAURANT INDUSTRY

Although foodservice is the top employer of women, young adults, and teenagers, who make up approximately 60% of the nation's 600 000 people directly and indirectly employed in the restaurant industry, or 5% of the total labour force, it would be incorrect to assume that the foodservice sector absorbs only unskilled labour. The industry provides employment to thousands of skilled and professional individuals who provide services, including accounting, marketing, insurance, research and education, and those who supply the industry with disposable products, uniforms, tableware, and food and beverage commodities(2).

It is difficult to generalize about the restaurant industry, with its complex mix of large chain--and small family operated companies. However, in order to run a restaurant, operators rely heavily on labour and food, the cost of both these items continue to spiral, totalling typically as much as 60 to 70% of average restaurant operating expenses. It should be clear therefore, that all restaurateurs, large and small, must regularly evaluate their role in a changing world.

Key issues likely to influence the planning process in the years ahead include: Technology, demographic changes, and economic conditions. All aspects of the restaurateur's management, location, and concept are vulnerable in the face of on-going change.

Varying rates of income, population, and employment growth all effect foodservice sales. Therefore, restaurant performance differs from province to province, depending to a great extent on the economic situation in the region.

According to Statistics Canada, the nation's foodservice industry has seen a 33% growth rate in volume since 1979 in terms of absolute dollar value.

The greatest contributors to this have been in Ontario, Alberta and British Columbia. Percentage wise the strongest expansion has been evident in Saskatchewan, recording an almost 50% increase since 1979 (Table 2).

The leading provinces in terms of foodservice sales in 1983 according to Pannell Kerr Forster(3) were: Ontario, Quebec, British Columbia, and Alberta.

Between 1982-83 the industry growth rate for institutional and commercial foodservice averaged respectively 5.2% and 4.7%, while the average food check in 1983 ranged from $2.20 in cafeteria to $16.16 in formal table service restaurants. Further analysis shows that on a per capita basis the strongest restaurant market exists in Alberta, with 116 occasions per resident annually (The Canadian average was 102 occasions with Ontario being the only other province to achieve above average figures). The Atlantic provinces with only 73 occasions is clearly the weakest region in terms of dining frequency. This is not to say that restaurant opportunities do not exist in this market, but rather that due to the lack of large urban areas restaurant development has been limited. The average check was recorded in Alberta with $5.83, followed by British Columbia at $5.66 and Quebec $5.44. Interestingly, Ontario's average check fell below the national average. Although Ontario residents dine out frequently, making the province the second highest nationally in terms of dining frequency, they in fact spend less per capita when they do so. (See Table 3 1983 foodservice volumes by province).

EMERGENCE OF FOODSERVICE MARKETING

From the entrepreneur to the manager, the foodservice industry has developed and prospered from the expertise of each. But rapid societal changes now dictate further professionalism in marketing.

Successful restaurateurs recognize that operating a foodservice business-independent or chain operation-reaches beyond developing a menu, pricing it attractively, and roll out in the marketplace. In the current business environment foodservice companies are finding it necessary to consider the strategic triangle(4): The consumer, the competition, and the company itself and its position in the industry in order to plan and implement strategies effectively.

CONSUMER

Restaurateurs cannot ignore the enormous influence that changing demographics have on the services they provide. There are five significant developments taking place with regard to Canada's demography, namely:

1. The Baby Boom generation has grown up; It is now between 19 and 34 years of age, and the full impact of its purchasing power has not been felt yet;

2. The 35-49 age group will grow four times faster than the average population over the next ten years;

3. More than 25% of Canadians are already over 50 years of age;

4. The family unit is still integral to our lives, but is changing in structure. Approximately 75% of divorced people remarry;

5. The number of women over 30 who are beginning a family is rising. In 1973 only 8% of first-time mothers were over 30; by 1983, this figure had grown to 14%.(5)

These findings are significant, because they indicate that foodservice marketers should aim their services to selected groups, rather than a mass market.

"Buyers can be segmented according to the particular benefits that they are seeking through the purchase of a product(6). For example, a study conducted by the National Restaurant Association(7) revealed that consumers dine out for a variety of reasons, and their reasons vary by the type of restaurant they patronize (see Table 4-Primary Reason for eating out by type of restaurant).

This study clearly indicates, that the decision making process of restaurant visitation falls into three categories, not one stereotype.

A. Fast food in large part served to bridge the at-home/away from home alternative, for it originally prepared food away from home for carry out purposes, so patrons could consume it anywhere they desired.

   The reasons for patronizing fast food establishments are primarily concerned with necessity, i.e. many consumers choose this type of restaurant because of lack of time (36.8%) and convenience (13.1%). A simple formula made fast food what it is today: A limited menu at a low price complemented by quick, clean, and slick service and decor. The fast food concept may appear on the surface to be rather homogeneous in nature.

   Recently, however, a number of new chains have sprung up bearing the label of "upscale fast food". This is a logical development, because baby boomers who grew up on fast food and are now maturing have become more selective and sophisticated in their tastes.

   Another major change in the fast food market is an increase in sale of chicken-based products, while growth has slowed in the hamburger segment of the industry. Witness McDonald's introduction of chicken McNugget!

B. Family Restaurants are selected by customers who lack time or for all other reasons (15.0%), and special occasions (13.2%). Others visit a family restaurant, because of a lack of time (11.2%).

   However, more significantly, more than six out of ten family restaurants seem to place considerable importance on variety of menu items offered, as an attribute for this restaurant type.

   While all age groups do frequent family restaurants, the Baby Boom segment is now a key force for this midprice establishment. Typically, the Baby Boom clientele likes to eat out (8.5%). Beside variety of meny items offered, this market segment will demand portion size choice depending on the time of day, personal inclinations, habits, and their economic situation.

C. Atmosphere Restaurant. The celebration of a birthday (13.1%), or other occasion (20.7%), or enjoyment of a night out (13%), are main reasons atmosphere restaurants are chosen. The customer who frequents the atmosphere restaurant is generally well educated, likely to be white collar, well travelled, knowledgeable about food and wine, and tends to be slightly older. He is typically established in business or profession, reasonably affluent, and therefore; more sophisticated, quality conscious, and curious, in terms of food service experience offered. Consequently; food festivals, i.e. themed sales promotion, are a natural to capture this upscale market segment.

   Despite the fact that there is a common interest in convenience, quality, and value for the money, operators should attempt to define their niche and market toward it aggressively, since no one establishment can hope to be "all things to all people."

THE FUTURE

There is no single industry in the world which can be sure that its products and technology will be the same 20 years from now. This is also true of the agri-food business, including foodservice. Those involved in food manufacturing and wholesaling, are therefore well advised to get a fix on what is ahead.

What does the future hold?

The foodservice industry of the 1990's will be different from today's version in terms of :

- Menu selection and facility design. Restaurants which will be less uniform in nature, because customers crave for different types of eating-out experiences;

- A new generation of foods. Given that Canadians increasingly believe in physically taking care of themselves, we can envision restaurateurs offering "health pacs" made up of a low-fat protein entree along with salad and fresh fruit. Other healthy items we may expect to find on restaurant menus include; more chicken and fish burgers, low fat beef burgers, and adaptations of oriental foods;

- The older clientele it will serve. Restaurateurs will have to adapt to senior customers who tend to be more conservative in their tastes. For example, this market segment may be less interested in salad bars and self service than the younger generation;

- Self-service will replace less effective forms of table-service in many establishments. This development will be due to a shortage of competent staff and the need to increase productivity;

- Catering services that are oriented to at home entertaining enabling restaurateurs to capture those who are "hooked" by their personal computer, VCR, or other electronic home gadgets.

- More restaurant chains will be involved in the export of foodservice expertise, for example, through franchising agreements.

The high calibre of Canadian restaurants and foodservice operations has become more evident with the growth and maturing of the restaurant industry. This is corroborated by the Canadian culinary team's conquest of the world title and the gold medal in Frankfurt in 1984.

The restaurant industry offers the agri-food system a major showcase to present domestic products to the public both nationally and internationally. Presently, an increasing number of Canadian restaurant companies is seeking entry into foreign markets through franchising. For example, a study conducted by the U.S. Department of Agriculture reveals that 1980 foodservice sales generated by foreign firms totaled a reported $2.7 billion, and Canada topped the list as the largest foreign investor in U.S. foodservice.

Thanks to the high productivity of Canadian agriculture and the rising level of discretionary income, food expenditures have consumed an even smaller portion of disposable personal income. As the foodservice industry's growth slows down in the developed countries, foodservice firms will increasingly look toward the developing countries which will be the real growth markets of the future. This development will afford alert domestic food manufacturers a prime opportunity to export their products as part of, for instance; a foodservice franchise.

The export of foodservice expertise is however, not without difficulty attests a recent report in the (Globe & Mail(8)):

"many foreign governments have been able to erect barriers, that restrict the access of foreign service industries to their markets. As a consequence, the U.S. government has taken the lead in seeking the establishment of rules to liberalize international trade in services. Canada is one of the countries, which supports the initiative to discuss service issues in the General Agreement on Tariffs and Trade."

One option, to successfully help lift the aforementioned barriers will be through collaboration in the Canadian agri-food system. For example, in some areas, the nation's food manufacturers, wholesalers, and foodservice chains can form a coalition, that through pooled financial resources, provide themselves with more efficient tools to manage issues like international competition, destined to remain probably the number one trade issue of our time.

In addition, improved cooperation and communication between channel members in the agri-business system should lead to increased coordination in terms of research and development, distribution, and promotion of Canadian foods both in domestic and export markets.

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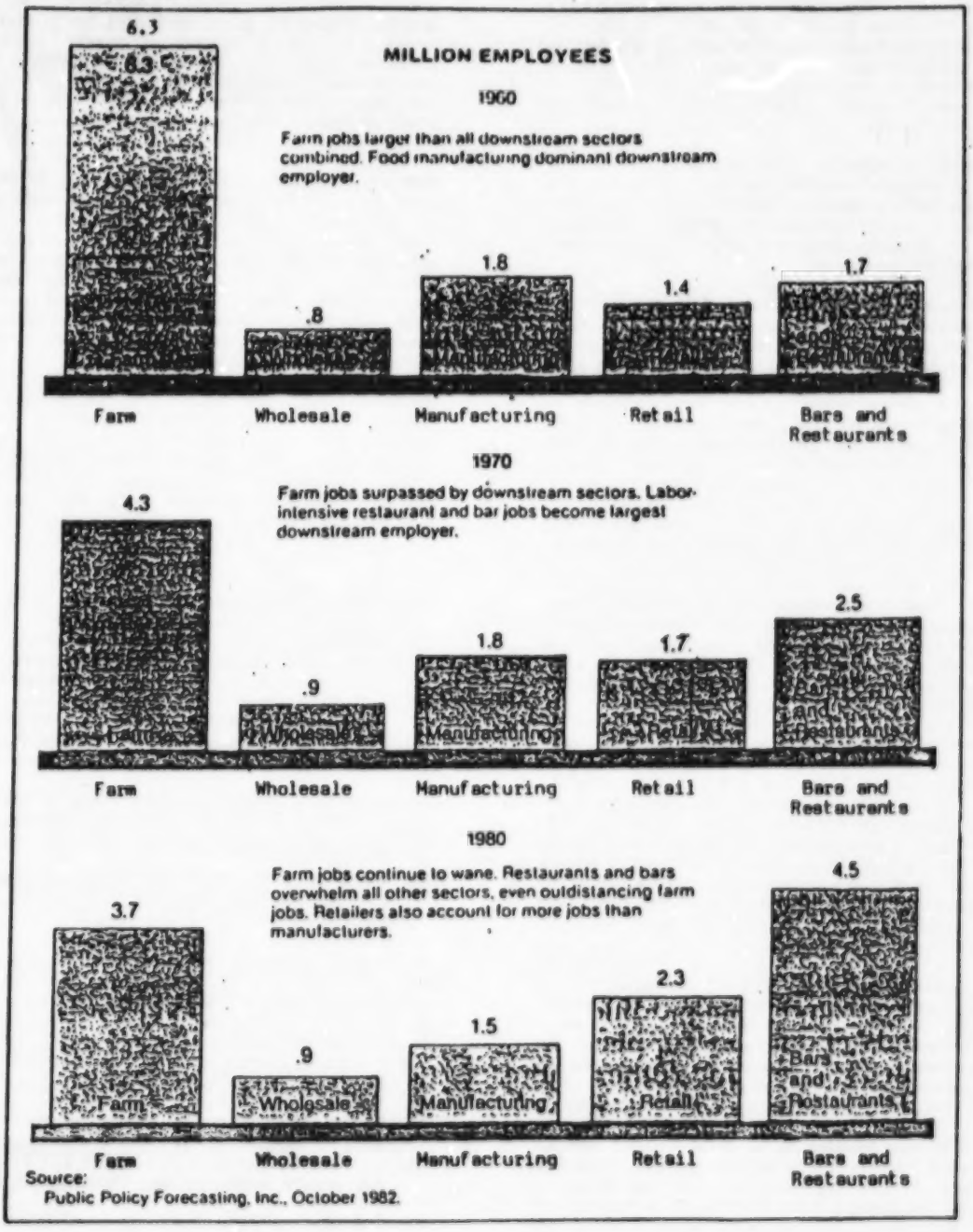
TABLE 1.



Source:
Public Policy Forecasting, Inc., October 1982.

TABLE 2. HISTORICAL GROWTH IN THE CANADIAN FOODSERVICE INDUSTRY REGIONAL ANALYSIS 1979-1983

	1979	% change	1980	% change	1981	% change	1982	% change	1983
					($ millions)				
Canada	7 572.1	12.1	8 484.7	7.4	9 111.2	5.1	9 576.6	5.4	10 089.9
Nfld.	119.6	10.5	132.1	2.1	134.9	1.3	136.7	3.0	140.7
P.E.I.	29.9	13.7	34.0	5.3	35.8	5.8	36.3	14.6	41.6
N.S.	192.1	17.7	226.0	13.6	256.7	0.4	257.1	5.8	272.0
N.B	149.9	7.5	161.1	3.8	167.3	11.7	186.9	0.1	187.2
Que.	2 015.6	8.0	2 177.8	1.1	2 202.0	(0.6)	2 188.9	9.2	2 390.1
Ont.	2 797.7	14.5	3 202.6	8.7	3 481.0	10.0	3 827.7	3.7	3 969.4
Man.	276.0	4.7	289.0	(0.0)	288.9	8.1	312.4	6 7	333.2
Sask.	223.5	7.8	241.0	14.1	275.0	17.1	321.9	4.1	335.2
Alta.	738.9	12.0	827.4	14.0	943.6	11.9	1 056.3	(0.6)	1 049.6
B.C	1 010.8	16.1	1 173.2	10.5	1 296.1	(5.1)	1 233.4	9.5	1 351.1
N.W.T/Yuk.	18.1	13.3	20.5	42.4	29.2	(54.5)	18.9	(4.8)	19.8

Source: Statistics Canada

TABLE 3. 1983 FOODSERVICE VOLUMES BY PROVINCE

	Annual Frequency	Average Check	Per Capita Expenditures
Atlantic	73	$4.57	$333.61
Quebec	91	$5.44	$495.04
Ontario	109	$5.22	$568.98
Manitoba/ Saskatchewan	91	$4.75	$432.25
Alberta	116	$5.83	$676.28
British Columbia	100	$5.66	$566.00
Canada	102	$5.26	$536.52

Source: Pannell Kerr Forster and Market Facts of Canada.

TABLE 4. PRIMARY REASON FOR EATING OUT BY TYPE OF RESTAURANT

Reason	Fast Food Restaurants	Family Restaurants	Atmosphere Restaurants
		(percent)	
Lack of time	36.8	11.2	3.1
Good place for children	1.2	0.6	--
Inexpensive	1.1	0.7	0.5
Out shopping	9.9	7.1	2.1
Traveling	5.4	5.0	1.7
Birthday	0.4	5.8	13.1
Location	2.5	1.2	0.6
Convenience	13.1	7.3	1.5
Like to eat out	4.2	8.5	8.7
Don't want to cook/clean up	8.1	5.3	0.9
Anniversary	0.1	1.9	4.9
Other special occasion	1.6	13.2	20.7
Business meeting	0.2	0.7	3.3
No special reason	1.6	5.2	6.7
Date	--	2.2	4.7
Night out	1.3	4.4	13.5
All other reasons	10.0	15.0	7.5
Do not know	2.6	4.7	6.3

NOTE: Represents first reason given by respondent.

Source: Consumer Attitude and Behavior Study, How Consumers make the decision to eat out, Published by: National Restaurant Association, Research and Information Services Department, August, 1982 p. 28

PLENARY SESSION IV

CLOSING REMARKS

Hon. John Wise

When I opened the conference yesterday morning, I expressed my hope that this would be an outstanding success. And from everything I've seen and heard, my wish has come true.

This conference has not only attracted a record number of people, probably 1000 when the final tally is done, but it has also managed to keep your interest and your active participation throughout. That's clear from the faces in this room, and from the many complimentary remarks I heard at last night's reception.

There are a lot of reasons behind that success, and the list must start with the key organizers in our Marketing and Economics Branch -- Bruce Huff, Jacques Petit and André Trempe. They and the rest of their branch, working in co-operation with our senior management team, obviously selected a theme and a set of topics that are on-target, timely and relevant to you, the leaders of the Canadian agri-food industry.

The speakers themselves deserve our deep appreciation. They've shared not only their tremendous knowledge and their insights into the agri-food industry as it exists here in Canada and around the world, but they've also had the courage to go out on a limb and make some predictions about what they expect to see happen in the future.

While the theme and the speeches constitute the meat of this tremendous gathering, there are other reasons why this has been such a success.

Again, we enjoyed that marvellous party -- you might call it the social event of the Canadian agri-food calendar -- the Foreign Agricultural Attachés Reception.

As I went around the Main Lounge last night, squeezing in between the hundreds and hundreds of people who were packed into that room, I felt again the warmth and the fellowship that exists among the people who make up this industry, our industry. There's an electricity, an energy that flows among the people, like an integrated circuit. An we are integrated. We are all affected by the same forces, and we affect each other, directly and indirectly, every day.

We have good reason to be close. And you couldn't get much closer that we were in the Main Lounge last night, and still emerge with your ribs intact.

Similarly, we enjoyed a fine sense of community yesterday noon at the Agricultural Awards Banquet. The nine people we honoured -- Maryon Brechin, George Clemons, Charles Gibbons, Walter Kroeker, Harrison McCain, Philippe Pariseault, Donald McQ. Shaver, Ruth Thoen, and Mac Runciman, are all outstanding people in an industry where you have to be outstanding to survive.

When Mr. Shaver was accepting his award, he said that when people congratulate him on his luck, he replies: "The harder we work, the luckier we get."

The comment was similar to one made by C.L. Sibbald during yesterday afternoon's closing session.

After having listened to the day's presentations on environmental degradation, the foreign policy shifts that are creating a tougher economic climate for our industry, and the global economic problems that cloud the overall forecast, Mr. Sibbald's conclusion was, quote, "It's a tough world out there. But let's buckle down and make it work."

That's precisely the spirit we need going into the coming year and the years beyond. It won't be easy. We've got a lot of challenges to overcome. But we've got to work hard, and work co-operatively, to make the best of the situation.

Speaking of challenges to overcome, we've just been presented with another one today.

I've just been informed that the United States' International Trade Commission this afternoon voted three-to-zero, that there is reasonable threat of injury to the U.S. pork industry, due to increased imports of Canadian pork and live hogs.

A counter-vail investigation will therefore continue, and the U.S. Department of Commerce will make a preliminary determination of the existence of Canadian subsidies, by January 26th.

I want to assure you that the Canadian government will work closely with the provinces and the industry to ensure that our side of the story is properly presented throughout the investigation.

Again, with a positive attitude and a coherent, co-operative approach, I'm sure we can resolve this problem.

That's the spirit with which I am approaching the New Year as Minister of Agriculture -- confident that, together, we will see the agri-food industry survive and prosper.

I look forward to meeting more of you in the Main Lounge in a couple of minutes when we go to celebrate the conference's 50th anniversary.

CONVERSION FACTORS

Metric units	Approximate conversion factors	Results in:
LINEAR		
millimetre (mm)	x 0.04	inch
centimetre (cm)	x 0.39	inch
metre (m)	x 3.28	feet
kilometre (km)	x 0.62	mile
AREA		
square centimetre (cm^2)	x 0.15	square inch
square metre (m^2)	x 1.2	square yard
square kilometre (km^2)	x 0.39	square mile
hectare (ha)	x 2.5	acres
VOLUME		
cubic centimetre (cm^3)	x 0.06	cubic inch
cubic metre (m^3)	x 35.31	cubic feet
	x 1.31	cubic yard
CAPACITY		
litre (L)	x 0.035	cubic feet
hectolitre (hL)	x 22	gallons
	x 2.5	bushels
WEIGHT		
gram (g)	x 0.04	oz avdp
kilogram (kg)	x 2.2	lb avdp
tonne (t)	x 1.1	short ton
AGRICULTURAL		
litres per hectare (L/ha)	x 0.089	gallons per acre
	x 0.357	quarts per acre
	x 0.71	pints per acre
millilitres per hectare (mL/ha)	x 0.014	fl. oz per acre
tonnes per hectare (t/ha)	x 0.45	tons per acre
kilograms per hectare (kg/ha)	x 0.89	lb per acre
grams per hectare (g/ha)	x 0.014	oz avdp per acre
plants per hectare (plants/ha)	x 0.405	plants per acre